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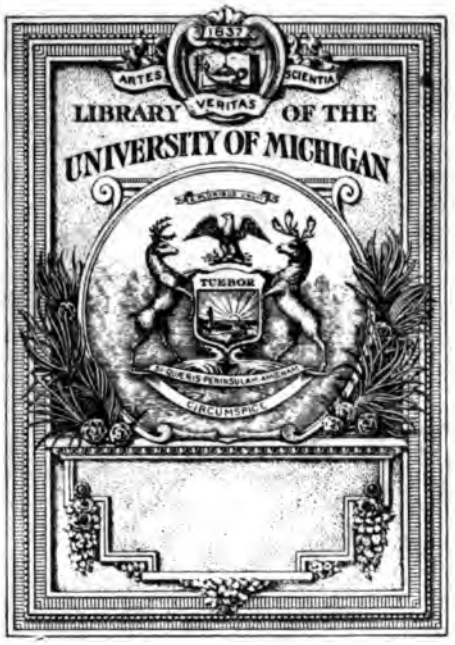
A. W. GREELY
MAJOR-GENERAL, U.S.A.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HENRY HUDSON'S LAST VOYAGE.

From the painting by Sir John Millais.

TRUE TALES OF ARCTIC HEROISM

IN THE NEW WORLD

BY

MAJOR-GENERAL A. W. GREELY, U. S. ARMY

GOLD-MEDALLIST ROYAL GEOGRAPHICAL SOCIETY AND OF SOCIÉTÉ DE GÉOGRAPHIE

WITH ILLUSTRATIONS AND MAPS

NEW YORK
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1912

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Published October, 1912

PREFACE

FROM the dawn of history great deeds and heroic actions have ever fed the flame of noble thought. Horace tells us that

> By Homer taught the modern poet sings
> In epic strains of heroes, wars and kings.

The peace-aspiring twentieth century tends toward phases of heroism apart from either wars or kings, and so the heroic strains of the "True Tales" appear in the unwarlike environment of uncommercial explorations.

One object of this volume is to recall in part the geographic evolution of North America and of its adjacent isles. The heroic-loving American youth is not always familiar with the deeds of daring, the devotion to duty, and the self-abnegation which have so often illumined the stirring annals of exploration in arctic America.

Notable exemplars of heroic conduct have already been inscribed on the polar scroll of immortals, among whom are Franklin and McClintock, of England; Kane, of America; Rae, of Scotland; and Mylius-Erichsen, of Denmark. Less known to the world are the names Brönlund, Egerton and Rawson, Holm, Hegemann,

321988

Jarvis and Bertholf, Kalutunah, Parr, Petitot, Pim, Richardson, Ross, Schwatka and Gilder, Sonntag, Staffe, Tyson and Woon, whose deeds appear herein. As to the representative women, Lady Jane Franklin is faintly associated in men's minds with arctic heroism, while Merkut, the Inuit, has been only mentioned incidentally. Yet all these minor actors have displayed similar qualities of courage and of self-sacrifice which are scarcely less striking than those shown in the lives of others who are recognized as arctic heroes.

The "True Tales" are neither figments of the fancy nor embellished exaggerations of ordinary occurrences. They are exact accounts of unusual episodes of arctic service, drawn from official relations and other absolutely accurate sources. Some of these heroic actions involve dramatic situations, which offer strong temptations for thrilling and picturesque enlargements. The writer has sedulously avoided such methods, preferring to follow the course quaintly and delightfully set forth by the unsurpassed French essayist of the sixteenth century.

Montaigne says: "For I make others to relate (not after mine own fantasy, but as it best falleth out) what I cannot so well express, either through unskill of language or want of judgment. I number not my borrowings, but I weigh them. And if I would have made their number to prevail I would have had twice as many. They are all, or almost all, of so famous and ancient names that methinks they sufficiently name themselves without me."

The "Tale" of Merkut, the daughter of Shung-hu, is the only entirely original sketch. The main incident therein has been drawn from an unpublished arctic journal that has been in the writer's possession for a quarter of a century. This character—a primitive woman, an unspoiled child of the stone age—is not alone of human interest but of special historic value. For her lovely heroic life indicates that the men and women of ages many thousands of years remote were very like in character and in nature to those of the present period.

A. W. GREELY.

WASHINGTON, D. C., *August*, 1912.

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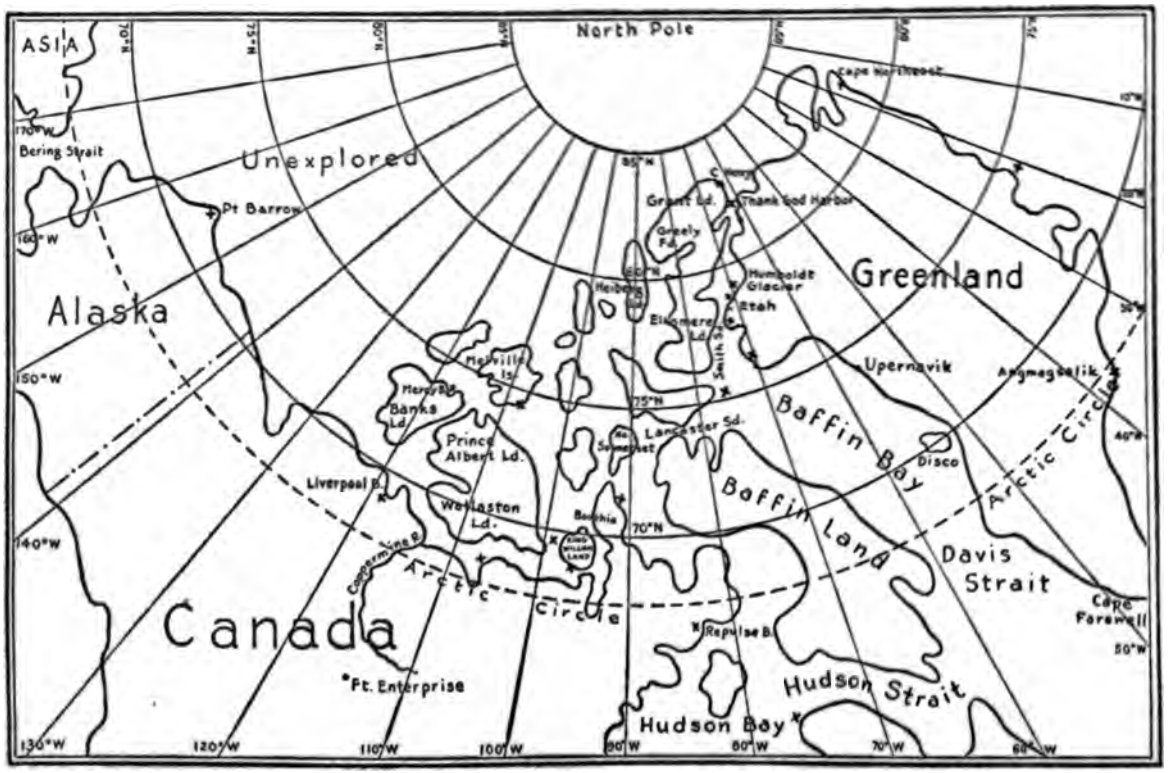
THE LOYALTY OF PHILIP STAFFE TO HENRY HUDSON



The Arctic Regions of the New World.

THE LOYALTY OF PHILIP STAFFE TO HENRY HUDSON

"You, Philip Staffe, the only one who chose
Freely to share with us the shallop's fate,
Rather than travel in the hell-bound ship—
Too good an English sailor to desert
Your crippled comrades."

—VAN DYKE.

ON the walls of the great Tate Gallery in London are many famous pictures, but few draw more attention from the masses or excite a livelier human interest among the travelled than does "The Last Voyage of Henry Hudson." While the artist dwells most on the courage of Henry Hudson, he recalls the loyalty of Philip Staffe and thus unites high human qualities ever admired.

Consider that in barely four years Hudson made search for both the northeast and northwest passages, laid the foundations for the settlement of New York, opened up Hudson Bay, and in a north-polar voyage reached the then farthest north—a world record that was unsurpassed for nearly two centuries. Few explorers in career, in success, and in world influence have equalled Hudson, and among those few are Columbus, Magellan, Vasco da Gama, and Livingston.

Thus Hudson's life was not merely an adventurous tale to be told, whether in the golden words of a great

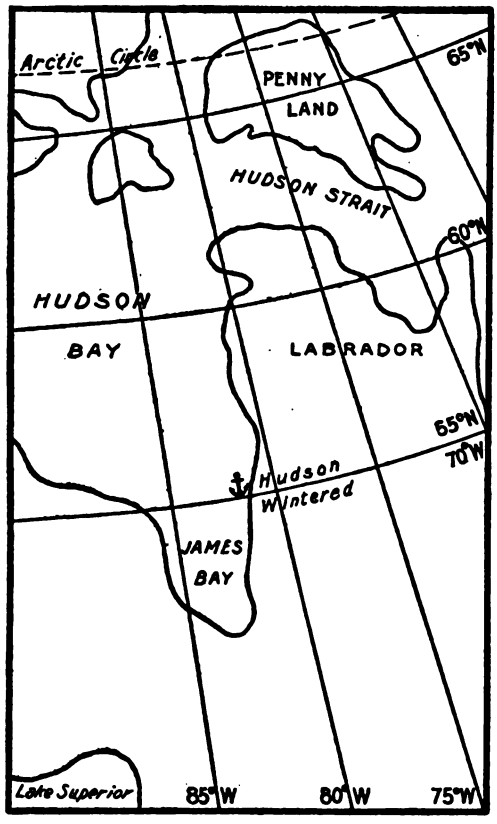
chronicle or in magic colors through the brush of a great artist. It appeals to the imagination and so impresses succeeding generations throughout the passing centuries.

For such reasons the materialistic twentieth century acclaimed loudly the fame of this unknown man—mysterious in his humanity though great as a navigator. So in 1909 the deeds and life of Henry Hudson were commemorated by the most wonderful celebration of the western hemisphere, whether judged by its two millions of spectators, its unsurpassed electric displays with six hundred thousand lights, or its parade of great war-ships from eight admiring nations.

Great were his deeds; but what was the manner of this man who won that greatest love from Philip Staffe, who in stress lay down life for his master? There was religious duty done, for Purchas tells that "Anno, 1607, April the nineteenth, at Saint Ethelburge, in Bishopsgate Street, did communicate these persons, seamen, purposing to go to sea in four days after, to discover a passage by the north pole to Japan and China. First, Henry Hudson, master. . . . Twelfthly, John Hudson, a boy." Hence we have faith that Hudson was sound and true.

The "Last Voyage" was in the *Discovery*, fifty-five tons only, during which Hudson, in search of the northwest passage, explored and wintered in Hudson Bay. The journal of Abacuck Prickett, the fullest known, gives a human touch to the voyage. He tells of a bear, "which from one ice-floe to another came toward us,

till she was ready to come aboard the ship. But when she saw us look at her, she cast her head between her



Hudson Bay and Hudson Strait.

hind legs, and then dived under the ice, and so from piece to piece, till she was out of our reach."

Some strange-appearing Indian caches were found, of which he relates: "We saw some round hills of stone,

like to grass cocks, which at first I took to be the work of some Christian. We went unto them, turned off the uppermost stone, and found them hollow within, and full of fowls hanged by their necks." Later he adds: "We were desirous to know how the savages killed their fowl, which was thus: They take a long pole with a snare or (noose) at the end, which they put about the fowl's neck, and so pluck them down."

Hudson unwisely decided to remain in the bay through the winter and put the *Discovery* into quarters in James Bay, an unfortunate though possibly inevitable anchorage. Knowing as we do the terrible cold of the winters in the Hudson Bay region, it is certain that the illy provided crew must have suffered excessively during the winter. Besides, the ship was provisioned only for six months and must be absent nearly a year. Sensible of the situation, Hudson encouraged systematic hunting and promised a reward for every one who "killed either beast, or fish, or fowl." The surrounding forests and barren hills were scoured for reindeer-moss or any other vegetable matter that could be eaten, while the activity of the hunters was such that in three winter months they obtained more than twelve hundred ptarmigan. Nevertheless, they were in straits for food despite efforts at sea and on land.

They had sailed a few days only on their homeward voyage when the discontent and insubordination, engendered the preceding winter, had swollen into mutiny. Alleging that there had been unfairness in the distribu-

tion of food, Henry Greene, a dissipated youth who owed his position to Hudson's kindness, incited his fellows to depose Hudson and cast him adrift. That this was a mere suspicion is clear from the cruel and inhuman treatment of their sick and helpless shipmates, who also suffered Hudson's fate.

Prickett relates that Hudson was brought bound from his cabin, and "Then was the shallop hauled up to the ship's side, and the poor, sick, and lame men were called on to get them out of their cabins into the shallop." Two of the seamen, Lodlo and Bute, railed at the mutineers and were at once ordered into the boat.

Philip Staffe, the former carpenter, now mate, took a decided stand against the mutineers, but they decided that he should remain on the ship owing to his value as a skilled workman. He heroically refused to share their lot, but would go with the master, saying, "As for himself, he would not stay in the ship unless they would force him."

The private log of Prickett, though favoring always the mutineers with whom he returned to England, clearly shows that Philip Staffe was a man of parts although unable to either read or write. His high character and unfailing loyalty appear from his decision. He was steadfast in encouraging those inclined to despair, and also discouraged grumbling discontent which was so prevalent in the ship. He was one of the men sent to select the location of winter quarters on the desolate shores of James Bay. Faithful to his sense of duty, he knew how and when to stand for his dignity

and rights. He displayed spirit and resolution when Hudson, in untimely season and in an abusive manner, ordered him in a fit of anger to build a house under unsuitable conditions ashore. Staffe asserted his rights as a ship's carpenter, and declined to compromise himself ashore.

His quick eye and prompt acts indicated his fitness for a ship's officer. He first saw and gave warning, unheeded, of a ledge of rocks on which the *Discovery* grounded. Again in a crisis, by watchful care and quick action, he saved the ship's cable by cutting it when the main anchor was lost. But in critical matters he stood fast by the choleric Hudson, who recognized his merit and fidelity by making him mate when obliged to make a change. This caused feeling, as Prickett records. "For that the master (Hudson) loved him and made him mate, whereat they (the crew) did grudge, because he could neither read nor write."

Even in the last extremity Staffe kept his head, exerted his personal influence with the mutineers for the good of the eight men who were to be cast adrift with the master. Declining the proferred chance of personal safety, he asked the mutineers to give means of prolonging life in the wild. He thus secured his tools, pikes, a pot, some meal, a musket with powder and shot. Then he quietly went down into the boat. Wilson, a mutineer, testified that "Philip Staffe might have staid still in the ship, but he would voluntarily go into the shallop for love of the master (Hudson)."

Rather than cast in his life with mutineers, thus in-

suring present comfort with prolonged life, this plain, illiterate English sailor stood fast by his commander, and faced a lingering death while caring for his sick and helpless comrades in a desolate, far-off land. Death with unstained honor among his distressed shipmates was to Philip Staffe preferable to a life of shame and dishonor among the mutineers of the *Discovery*. Surely he belongs to those described by the Bishop of Exeter:

> "Men who trample self beneath them,
> Men who make their country wreathe them."

The heroic loyalty of Philip Staffe was fittingly embalmed in quaint historic prose by the incomparable English chronicler of the principal voyages of famous navigators. Purchas, in "His Pilgrimage," relates: "But see what sincerity can do in the most desperate trials. One Philip Staffe, an Ipswich man, who, according to his name, had been a principal staff and stay to the weaker and more enfeebled courages of his companions in the whole action, lightening and unlightening their drooping darkened spirits, with sparks from his own resolution; their best purveyor, with his piece on shore, and both a skilful carpenter and lusty mariner on board; when he could by no persuasions, seasoned with tears, divert them from their devilish designs, notwithstanding they entreated him to stay with them, yet chose rather to commit himself to God's mercy in the forlorn shallop than with such villains to accept of likelier hopes."

The mutineers, having deposed and marooned the

great navigator Hudson, looked forward to a homeward voyage of plenty and of comfort. But under the rash and untrained directions of Henry Greene, William Wilson, and Robert Juet, the wretched, luckless seamen were in turn harried by hostile savages and distressed by deadly famine.

Prickett relates that a party landed near Cape Diggs, at the mouth of Hudson Strait, to barter with the natives for provisions, and adds: "I cast up my head, and saw a savage with a knife in his hands, who stroke at my breast over my head: I cast up my right arm to save my breast, he wounded my arm and stroke me in the body under the right pap. He stroke a second blow, which I met with my left hand, and then he stroke me in the right thigh, and had like to cut off my little finger of the left hand. I sought for somewhat wherewith to strike him (not remembering my dagger at my side), but looking down I saw it, and therewith stroke him into the body and the throat.

"Whiles I was thus assaulted in the boat, our men were set upon on the shore. John Thomas and William Wilson had their bowels cut, and Michael Perse and Henry Greene, being mortally wounded, came tumbling into the boat together. . . .

"The savages betook them to their bows and arrows, which they sent amongst us, wherewith Henry Greene was slain outright, and Michael Perse received many wounds, and so did the rest. In turning the boat I received a cruel wound in my back with an arrow. But there died there that day William Wilson, swearing

and cursing in most fearful manner. Michael Perse lived two days and then died."

Of their final sufferings Prickett records: "Towards Ireland we now stood, with prosperous winds for many days together. Then was all our meal spent, and our fowl [birds from Hudson Bay] restie [rusty?] and dry; but, being no remedy, we were content with salt broth for dinner and the half-fowl for supper. Now went our candles to wrack, and Bennet, our cook, made a mess of meat of the bones of the fowl, frying them with candle grease. Our vinegar was shared, and to every man a pound of candles delivered for a week, as a great dainty. . . .

"Our men became so faint that they could not stand at the helm, but were fain to sit. Then Robert Juet died for mere want, and all our men were in despair, . . . and our last fowl were in the steep tub. . . . Now in this extremity it pleased God to give us sight of land."

As to Hudson, with loyal Staffe and their sick comrades, the record runs: "They stood out of the ice, the shallop being fast to the stern, and so they cut her head fast. . . . We saw not the shallop, or ever after." Thus perished Henry Hudson, the man who laid the foundations of the metropolis of the western hemisphere, who indirectly enriched the world by hundreds of millions of dollars by giving to it the fisheries of Spitzbergen and the fur trade of Hudson Bay. To the day of his death he followed the noble rule of life set forth in his own words: "To achieve what they have undertaken,

or else to give reason wherefore it will not be." In geography and in navigation, in history and in romance, his name and his deeds stand forever recorded.

In the Homeric centuries Hudson might well have been deified, and even in this age he has become in a manner mythological among the sea-rovers as graphically depicted by Kipling:

"And North amid the hummocks,
A biscuit-toss below,
We met the fearful shallop
That frighted whalers know:
For down a cruel ice-lane,
That opened as he sped,
We saw dead Henry Hudson
Steer North by West his dead."

FRANKLIN'S CROSSING OF THE BARREN GROUNDS

FRANKLIN'S CROSSING OF THE BARREN GROUNDS

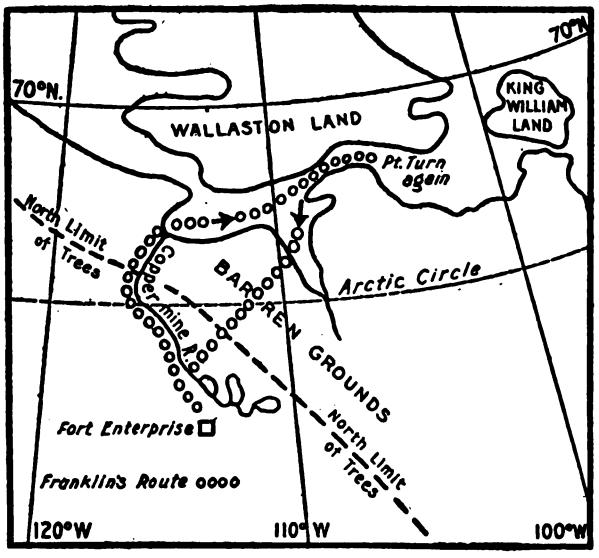
"One who never turned his back,
But marched breast forward,
Never doubted clouds would break."
—BROWNING.

STRANGE as it may now seem, a century since the entire northern coasts of North America were wholly unknown, save at two isolated and widely separated points—the mouth of the Coppermine and the delta of the Mackenzie. The mouth of the Coppermine was a seriously doubted geographical point, as Hearne's discovery thereof in 1771 was made without astronomical observations; though he did reach the sea we now know that he placed the mouth of the Coppermine nearly two hundred and fifty miles too far to the north. Mackenzie's journey to the delta of the great river that bears his name was accepted as accurate.

In the renewed efforts of Great Britain to discover the northwest passage and outline the continental coasts of North America, it was deemed important to supplement the efforts being made by Parry at sea with a land expedition. For this purpose it selected neither a civilian nor a soldier, but a sailor known to the world in history as a famous arctic explorer—Sir

John Franklin—who was to attain enduring fame at the price of his life.

Franklin had served as signal officer with Nelson at Trafalgar, was wounded while engaged under Packenham at the battle of New Orleans, and had commanded an arctic ship under Buchan in the Spitzbergen seas.



Barren Grounds of Northwestern Canada.

The vicissitudes of Franklin and his companions while on exploring duty in Canada, especially while crossing the barren grounds, are told in this tale.

A dangerous voyage by ship through Hudson Straits brought Franklin and his companions, Dr. Richardson, Midshipmen Hood and Back, and Seaman Hepburn to York Factory, Hudson Bay, at the end of August, 1819.

Contrary to the advice of the local agents, he started northward, and after a hazardous journey in the opening winter—involving a trip of seven hundred miles of marches, canoeing, and portages—reached Cumberland House.

With unreasonable ambition this indomitable man of iron pushed northward in mid-winter with Back and Hepburn, on a journey to Fort Chipewyan, Athabasca Lake, of eight hundred and fifty-seven miles, during which the whole party barely failed of destruction. While dogs hauled the food and camp gear, the men travelling on snow-shoes were pushed to keep up with the dogs. Being *mangeurs de lard* (novices or tenderfeet), they suffered intolerable pain in their swollen feet, besides suffering horribly from the blizzards and extreme cold, the temperature at times falling to ninety degrees below the freezing-point.

The sledges were of the Hudson Bay pattern, differing from those used elsewhere. They are made of two or three boards, the front curving upward, fastened by transverse cleats above. They are so thin that a heavily laden sledge undulates with the irregularities of the snow. Less than two feet wide as a rule, they are about nine feet long, and have around the edges a lacing by which the load is secured.

By a journey of fifteen hundred and twenty miles Franklin verified Hearne's discovery of the Coppermine, though finding its latitude and longitude very far out, and later he built and wintered at Fort Enterprise. It is interesting to note that the only complaint that

he makes of his summer journey were the insect pests —the bull-dog fly that carries off a bit of flesh at each attack, the irritating sand-fly, and the mosquito. Of the latter he says: "They swarmed under our blankets, goring us with their envenomed trunks and steeping our clothes in blood. The wound is infinitely painful, and when multiplied an hundred-fold for many successive days becomes an evil of such magnitude that cold, famine, and every other concomitant of an inhospitable climate must yield pre-eminence to it. The mosquito, irritating to madness, drives the buffalo to the plains and the reindeer to the sea-shore."

In the summer of 1821 Franklin descended the Coppermine River, and in a canoe voyage of five hundred and fifty miles to the eastward discovered the waters and bordering lands of Bathurst Inlet, Coronation Gulf, and as far as Dease Inlet. The very day that he was forced by failing food to turn back, Captain Parry, R.N., in the *Fury*, sailed out of Repulse Bay five hundred and forty miles to the east.

With the utmost reluctance Franklin saw the necessity for a speedy return. It was now the 22d of August, the nights were fast lengthening, the deer were already migrating, and the air was full of honking wild geese flying in long lines to the south. Both canoes were badly damaged, one having fifteen timbers broken. The other was so racked and warped that repairs were impracticable, the birch bark being in danger of separating from the gunwales at any severe shock.

One man had frozen his thighs, and the others,

shaken in mind and worn in body, unaccustomed to the sea, were in such a demoralized state that two of them threw away deer meat, sadly needed, to lighten the boats. Sudden cold set in with snow, a fierce blizzard blew up a high sea, and the inland pools froze over. Return by sea was clearly impossible, and the only chance of saving their lives was to ascend Hood River and reach Fort Enterprise by a land journey across the barren grounds, so dreaded and avoided by the Indians and the Eskimos.

With the subsiding gale they put to sea along the coast, and in three days entered Hood River, though at times with utmost difficulty escaping foundering, as says Franklin: "The waves were so high that the masthead of our canoe was often hid from the other, though it was sailing within hail."

Once landed on the river bank, the mercurial voyageurs, unmindful of the difficult and dangerous march before them, were in most joyful mood. They spent a gay evening before a large camp-fire, bursting into song, reciting the novel perils of the sea now past, and exaggerating with quaint humor every little incident.

With the vigor of famishing men they scoured the country for game, and nets were skilfully set under cascade falls, which yielded the first morning a dozen trout and white-fish. On these they made a delicious meal, seasoned by abundant berries, for in this country there remain on the bushes throughout the winter cranberries and red whortleberries.

The voyageurs were quite worn out poling their boats

up the rapids of Hood River. At times it was even needful to take out the loads and, wading knee-deep in the ice-cold waters, drag the boats across the many shoals. One day Franklin was dismayed, though the men were quite indifferent, at coming to impassable rapids. They proved to be the lower section of a series of wonderful cascades which could be passed neither by traversing nor by portage. For the distance of a mile the river was enclosed by solid, perpendicular walls of sandstone, shutting the stream into a canyon that was in places only a few yards wide. In this single mile the stream fell two hundred and fifty feet, forming two high falls and a number of successive rapids. A survey of the upper river proved its unnavigability even had a portage been possible. The crossing of the barren grounds was thus lengthened far beyond Franklin's expectations.

Franklin, meantime, determining by astronomical observations the location of his camp on Hood River, informed the men that they were only one hundred and fifty miles from Point Lake, which was opposite Fort Enterprise, their starting-point the previous spring. The voyageurs received this news with great joy, thinking it to be a short journey, as they had had no experience with the barren region. Franklin was not so cheerful, as accounts of the desolation from various sources had made him alive to the certain hardships and possible dangers of the march. He decided to omit no precaution that would relieve or obviate the hardships.

Besides the five Englishmen, there were fifteen voya-

geurs, of whom two were Eskimo hunters, two interpreters, an Italian, an Iroquois Indian, and nine Canadian half-breeds. All were men inured to hard service and familiar with frontier life.

The large boats were taken apart, and from this material were built two small portable canoes which were fit to carry three men across any stream that might be discovered in this trackless and unexplored desert. Such books, clothing, supplies, and equipment as were not absolutely necessary for the journey were cached so as to reduce the loads to be carried in the men's packs. The tanned skins that had been brought along for the purpose of replacing worn-out moccasins were equally divided, and strong extra foot-gear was made up with great care. Each one was given two pairs of flannel socks and other warm clothing, for freezing weather had come to stay. One tent was taken for the men and another for the officers.

On the last day of August the party started in Indian file, each man carrying ninety pounds, and the officers according to their strength. The luggage consisted of their little stock of pemmican, tents, ammunition, fishing-nets, hatchets, instruments, extra clothing, sleeping and cooking gear. Each officer had a gun, his field journals, instruments, etc., and two men were told off daily to carry the cumbersome and hated canoe. They were so heavily laden that they made only a mile an hour, including frequent rests. The voyageurs complained from the first at taking two canoes, and were but half convinced when the raging Hood

River was speedily crossed by lashing the two canoes together.

Their important vegetable food, berries, failed a few miles from the river, and as very little game was seen they were obliged to eat the last of their pemmican on September 4. As a blizzard sprang up the next morning, the party was storm-bound for two days—passed without food or fire, their usual fuel, moss, failing, as it was covered with snow and ice. The temperature fell to twenty degrees and the wet tents and damp blankets were frozen in solid masses. On breaking camp Franklin fainted from exhaustion, cold, and hunger. Dr. Richardson revived him, against his protest, with a bit of portable soup which, with a little arrow-root for sickness, was the only remaining food.

The snow was now a foot deep and travel lay across swamps where the new, thin ice constantly broke, plunging the wretched men up to their knees in ice-cold water. To add to their misfortunes, Benoit, to Franklin's distress, fell and broke the larger of the canoes into pieces; worst of all, he was suspected of doing so maliciously, having threatened to destroy the canoe whenever it should be his turn to carry it. Franklin chose to ignore this mutinous conduct and resourcefully utilized the accident. Halting the march and causing a fire to be made of the birch bark and the timbers, he ordered the men to cook and distribute the last of the portable soup and the arrow-root. Though a scanty meal, it cheered them all up, being the first food after three days of fasting.

After a march of two days along the river bank, they struck across the barren grounds, taking a direct compass course for Point Lake. The country was already covered with snow and high winds also impeded their progress. In many places the ground was found to have on its surface numberless small, rolling stones, which often caused the heavily burdened voyageurs to stumble and fall, so that much damage was done to loads, especially to the frail canoe. As the only foot-gear consisted of moccasins made of soft, pliant moose-skin, the men soon suffered great pain from frequent stone-bruises, which delayed the march as the cripples could only limp along.

The barren grounds soon justified their name, for, though an occasional animal was seen and killed, the men more often went hungry. The deep snow and the level country obliged Franklin to adopt special methods to avoid wandering from the direct compass route, and the party travelled in single file, Indian fashion. The voyageurs took turns breaking the path through the snow, and to this leader was indicated a distant object toward which he travelled as directly as possible. Midshipman Hood followed far enough in the rear to be able to correct the course of the trail-breaker, to whom were pointed out from time to time new objects. This method of travel was followed during the whole journey, meeting with great success.

In time they reached a hilly region, most barren to the eye but where most fortunately were found on the large rocks edible lichens of the genus *gyrophora*, which

were locally known to the voyageurs as *tripe de roche* (rock-tripe). Ten partridges had been shot during the day's march, half a bird to a man, and with the abundant lichens a palatable mess was made over a fire of bits of the arctic willow dug up from beneath the snow. Franklin that night, which was unusually cold, adopted the plan, now common among arctic sledgemen, of sleeping with his wet socks and moccasins under him, thus by the heat of the body drying them in part, and above all preventing them from freezing hard.

Coming to a rapid-flowing river, they were obliged to follow it up to find a possible crossing. They were fortunate to find a grove of small willows, which enabled them to make a fire and thus apply gum to the very much damaged canoe. Though the operation was a very ticklish one, three of the voyageurs under Saint Germain, the interpreter, managed the canoe with such dexterity as to ferry over one passenger at a time, causing him to lie flat in the canoe, a most uncomfortable situation owing to the cold water that steadily seeped into the boat.

Starvation meals on an occasional grouse, with the usual *tripe de roche*, caused great rejoicing when, after long stalking, the hunters killed a musk-cow. The ravenous condition of the voyageurs was evident from Franklin's statement that "the contents of its stomach were devoured on the spot and the raw intestines, which were next attacked, were pronounced by the most delicate of us to be excellent. This was the sixth day since we had had a good meal; the *tripe de roche*, even

when we got enough, only served to allay hunger a short time."

Suffering continual privations from hunger, they reached Rum Lake, where the supper for twenty men was a single partridge with some excellent berries. There was still *tripe de roche* to be had, but "this unpalatable weed was now quite nauseous to the whole party, and in several cases it produced bowel complaints."

Franklin considered that the safety of the men could now be insured through the lake fishing, as most of the voyageurs were experts with the net from having long lived at points where they depended on fish for their food. His consternation almost gave way to despair when he discovered the fatal improvidence of the voyageurs, who, to lessen their burdens by a few pounds, had thrown away the fishing-nets and burned the floats. "They knew [says Franklin] we had brought them to procure subsistence for the party, when the animals should fail, and we could scarcely believe the fact of their having deprived themselves of this resource," which eventually caused the death of the majority of the party.

Franklin at once lightened the loads of his sadly weakened men by abandoning everything save astronomical instruments, without which he could not determine correctly their route. Under these disheartening circumstances, the captain's heart was cheered beyond measure by an act of heroic generosity on the part of one of his starving men. As they were start-

ing on the march Perrault came forward and gave to each officer a bit of meat that he had saved from his own allowance. Franklin says: "It was received with great thankfulness, and such an act of self-denial and kindness, being entirely unexpected in a Canadian voyageur, filled our eyes with tears."

A short time after, Credit, one of the hunters, came in with the grateful news that he had killed a deer.

The same day there was a striking display of courage, skill, and endurance on the part of one of the men indicative of the mettle of these uncultured voyageurs. In crossing a river the first boat-load consisted of Saint Germain, Solomon Belanger, and Franklin. Driven by a strong current to the edge of a dangerous rapid, Beranger lost his balance and upset the canoe in the rapid. All held fast to the frail craft and were carried to a point where they touched a rock and gained their footing, although up to their waists in the stream. Emptying the canoe of water, Belanger held the boat steady whilst Saint Germain placed Franklin in it and embarked himself in a dexterous manner. As it was impossible to get Belanger in the boat, they started down the river and after another submersion reached the opposite shore.

Belanger's position was one of extreme danger and his sufferings were extreme. He was immersed to his waist in water near the freezing-point, and, worse yet, his upper body, clothed with wet garments, was exposed to a high wind of a temperature not much above zero. Two voyageurs tried vainly in turn to reach him with

SIR JOHN FRANKLIN.

the canoe, but the current was too strong. A quick-witted voyageur caused the slings to be stripped from the men's packs and sent out the line toward Belanger, but just as he was about to catch it the line broke and the slings were carried away. Fortunately there was at hand a small, strong cord attached to a fishing-net. When Belanger's strength was about gone the canoe reached him with this cord and he was dragged quite senseless to the shore. Dr. Richardson had him stripped instantly, wrapped him up in dry blankets, and two men taking off their clothes aided by their bodily heat in bringing the sufferer to consciousness an hour or so later.

Meantime the distracted Franklin was watching this desperate struggle from the farther bank, where with drenched and freezing clothes he was without musket, blankets, hatchet, or any means of making a fire. If this betossed canoe was lost the intrepid commander and all the men would have perished. It is to be noted, as characteristic of the man, that in his journal Franklin makes no mention of his sufferings, but dwells on his anxiety for the safety of Belanger, while deploring also the loss of his field journal and the scientific records.

The loss of all their pack-slings in rescuing Belanger somewhat delayed their march, but with the skill and resourcefulness gained by life in the wilds, the voyageurs made quite serviceable substitute slings from their clothing and sleeping-gear.

Conditions grew harder from day to day, and soon the only endurable situation was on the march, for

then they were at least warm. The usual joy of the trapper's life was gone—the evening camp with its hours of quiet rest, its blazing fire, the full pipe, the good meal, and the tales of personal prowess or adventure. Now, with either no supper or a scanty bit of food, the camp was a place of gloom and discomfort. Of the routine Franklin writes: "The first operation after camping was to thaw out our frozen shoes, if a fire could be made, and put on dry ones. Each wrote his daily notes and evening prayers were read. Supper if any was eaten generally in the dark. Then to bed, where a cheerful conversation was kept up until our blankets were thawed by the heat of our bodies and we were warm enough to go to sleep. Many nights there was not enough fire to dry our shoes; we durst not venture to pull them off lest they should freeze so hard as to be unfit to put on in the morning."

Game so utterly failed that the hunters rarely brought in anything but a partridge. Often they were days without food, and at times, faint and exhausted, the men could scarcely stagger through the deep snow. Midshipman Hood became so weak that Dr. Richardson had to replace him as the second man in the marching file, who kept the path-breaking leader straight on the compass course. The voyageurs were in such a state of frenzy that they would have thrown away their packs and deserted Franklin, but they were unable to decide on a course that would insure their safe arrival at Fort Enterprise.

Now and then there were gleams of encouragement—

a deer or a few ptarmigan; and once they thought they had a treasure-trove in a large plot of iceland moss. Though nutritious when boiled, it was so acrid and bitter that only a few could eat more than a mouthful or two.

After six days of cloudy weather, Franklin got the sun and found by observation that he was six miles south of the place where he was to strike Point Lake, the error being due to their ignorance of the local deviation of the compass by which they had laid out their route. When the course was changed the suspicious voyageurs thought that they were lost, and gave little credit to Franklin's assurances that they were within sixty miles of Fort Enterprise. Dr. Richardson was now so weak that he had to abandon his beloved plants and precious mineral specimens.

Their misfortunes culminated when the remaining canoe was badly broken, and the men, despite entreaties and commands, refused to carry it farther. Franklin says: "My anguish was beyond my power to describe it. The men seemed to have lost all hope, and all arguments failed to stimulate them to the least exertion."

When Lieutenant Back and the Eskimo hunters started ahead to search for game, the Canadians burst into a rage, alleged an intended desertion, threw down their packs, and announced that it was now to be every one for himself. Partly by entreaties and partly by threats, for the officers were all armed (and in view of the fact that Franklin sent the fleetest runner of the

party to recall the hunters), the voyageurs finally consented to hold together as a party.

Death by starvation appeared inevitable, but with his commanding presence and heroic courage the captain was able to instil into the men some of his own spirit of hope and effort. As they were now on the summer pasturage grounds of large game, they were fortunate enough to find here and there scattered horns and bones of reindeer—refuse abandoned even by the wolves. These were eagerly gathered up, and after being made friable by fire were ravenously devoured to prolong life, as were scraps of leather and the remnants of their worn-out moose-skin moccasins.

September 26 brought them, in the last stages of life, to the banks of the Coppermine, within forty miles of their destination. The misguided voyageurs then declared themselves safe, as for once they were warm and full of food, for the hunters had killed five deer and they came across a willow grove which gave them a glorious camp-fire. But the seeds of disloyalty and selfishness now blossomed into demoralization. After gorging on their own meat two of the voyageurs stole part of the meat set aside for the officers.

The question of crossing the Coppermine, a broad stream full of rapids, was now one of life or death. With remorse nearly bordering on desperation, the Canadians now saw that the despised and abandoned canoe was their real ark of safety. Following the banks for miles, no ford could be found despite the closest search. Franklin fixed on two plans for crossing,

either by a raft of willows, which grew in quantities near by, or by a canvas boat to be made by stretching over a willow framework parts of tents still in hand. The voyageurs arrogantly scouted both expedients, but after wasting three precious days wrangling they built a willow raft. When done its buoyancy was so slight that only one man could be supported by it. It was thought, however, that a crossing could be made by getting a line across the river by which the raft could be pulled to and fro. As an incitement to exertion, Franklin offered to the voyageur who should take a line across the sum of three hundred livres (sixty dollars), a large amount for any of these men. Two of the strongest men failed in their efforts to work the raft across, the stream being rapid and one hundred and thirty yards across. The single paddle, brought by Richardson all these weary miles from the sea-shore, was too feeble, and two tent-poles lashed together were not long enough to reach bottom a short distance from the shore. Repeated failures demoralized the voyageurs, who cried out with common accord that they were lost.

Dr. Richardson now felt that the time had come to venture his life for the safety of the party, and so offered to swim across the Coppermine with a line by which the raft could be hauled over. As he stripped his gaunt frame looked rather like a skeleton than a living man. At the sight the Canadians all cried out at once, "Ah! que nous sommes maigres!" ("Oh! how thin we are!"). As the doctor was entering the

river he stepped on a dagger which had been carelessly left on the ground. It cut him to the bone, but he did not draw back for a second. Pain was nothing to the lives of his comrades.

With the line fastened around his waist, he plunged into the stream. Before he reached the middle of the river his arms were so benumbed by the cold water, which was only six degrees above the freezing-point, that he could no longer use them in swimming. Some of the men cried out that he was gone, but the doctor was not at the end of his resources, and turning on his back he swam on in that way. His comrades watched him with renewed anxiety. Could he succeed or must he fail? Were they to be saved or not? The swimmer's progress became slower and slower, but still he moved on. When almost within reaching distance of the other bank his legs failed also, and to the intense alarm of the Canadians he sank. The voyageurs instantly hauled on the line, which brought him to the surface, and he was drawn to the shore in an unconscious and almost lifeless condition. He was rubbed dry, his limbs chafed, and, still unconscious, was rolled up in blankets and placed before a very hot fire. In their zeal the men nearly caused the death of the doctor, for he was put so near the fire that the intense heat scorched his left side so badly that it remained deprived of most sensation for several months. Fortunately he regained consciousness in time to give some slight directions about his proper treatment.

Apart from the failure of Richardson to cross the

river, the spirits of the party were more cast down by the loss of Junius, the best hunter of the party. Taking the field as usual, the Eskimo failed to return, and no traces could be found of him.

As a final resort they adopted a plan first advanced by Franklin, and the ingenious interpreter, Saint Germain, offered to make a canvas boat by stretching across a willow framework the painted, water-proof canvas in which the bedding was wrapped. Meanwhile the general body of the voyageurs was in such depths of indifference that they even preferred to go without food rather than to make the least exertion, and they refused to pick the *tripe de roche* on which the party now existed. Franklin records that "the sense of hunger was no longer felt by any of us, yet we were scarcely able to converse on any other subject than the pleasures of eating."

Finally the canoe was finished on October 4, and, proving water-tight, the whole party was ferried safely across, one at a time. The week lost by ignoring Franklin's orders proved the destruction of the party as a whole.

This was not the view of the voyageurs, who were now as joyful that they were within forty miles of the station as they had been downcast the day before crossing, when one of them stole a partridge given Hood, whose stomach refused the lichens. Of this mercurial change Franklin says: "Their spirits immediately revived, each shook the officers by the hand, declared the worst of their difficulties over,

and did not doubt reaching Fort Enterprise in a few days."

Franklin at once sent Back with three men ahead for assistance from Fort Enterprise, as previous arrangements had been made with a Hudson Bay agent to supply the station with provisions and to have Indians there as hunters.

The rear guard following slowly found no food save lichens, and so began to eat their shoes and bits of their bedding robes. On the third march two voyageurs fell exhausted on the trail, and despite the encouraging efforts of their comrades thus perished. To give aid to the failing men, to relieve the packs from the weight of the tent, and to enable Franklin to go ahead unencumbered by the weakest, Dr. Richardson asked that he be left with Hood and Hepburn at such place as fuel and *tripe de roche* were plentiful, which was done, relief to be sent to them from the station as soon as possible. Of this Franklin says: "Distressed beyond description at leaving them in such a dangerous situation, I long combated their proposal, and reluctantly acceded when they strenuously urged that this step afforded the only chance of safety for the party. After we had united in thanksgiving and prayers to Almighty God, I separated from my companions deeply afflicted. Dr. Richardson was influenced in his resolution to remain by the desire which influenced his character of devoting himself to the succor of the weak and Hepburn by the zealous attachment toward his officers."

The nine other voyageurs given their choice went for-

ward with Franklin, but Michel Teroahaute, the Iroquois Indian, and two Canadians returned next day to Richardson's camp.

On his arrival at Fort Enterprise on October 14, Franklin for the first time lost heart, the station being unprovisioned and desolate. A note from the indefatigable Back told that he was seeking aid from roving Indians or at the nearest Hudson Bay post.

Franklin says: "It would be impossible to describe our sensations after discovering how we had been neglected. The whole party shed tears, not for our own fate, but for that of our friends in the rear, whose lives depended entirely on our sending immediate relief."

On October 29 Richardson came in with the horrible news that two voyageurs had died on the trail, that the Iroquois Indian, Michel, had murdered Hood, and that in self-defence he had been obliged to shoot Michel.

Pending the relief of the party, which was on November 7, the members existed on Labrador tea (an infusion from a plant thus used by the Indians), on lichens, and the refuse of deer killed the year before. The deerskins gathered up in the neighborhood were singed of their hair and then roasted, while the horns and bones were either roasted or used in soup. Two of the Canadians died on this diet. Of a partridge shot and divided into six portions Franklin says: "I and my companions ravenously devoured our shares, as it was the first morsel of flesh any of us had tasted for thirty-one days."

The praiseworthy conduct of Franklin and of his

companions in prosecuting the work of outlining the arctic coasts of North America is not to be measured alone by the fortitude and courage shown in crossing the barren grounds. An unusual sense of duty, akin to heroism, could alone have inspired Franklin and Richardson to attempt the exploration under the adverse conditions then prevailing in that country. A warfare, practically of extermination, was then in progress between the Hudson Bay Company and the Northwestern Company. This struggle, under the instigation of misguided agents, aroused the worst passions of both half-breeds and of Indians, who were demoralized by the distribution of spirits. By diversions of hunters many people were starved, while others were murdered outright. Franklin's sad experiences in the public service at Fort Enterprise were duplicated by the starvation and deaths of innocent people at other remote points through commercial cupidity or rivalry.

Disastrous and lamentable as was the outcome of the journey across the barren lands, it indicated in a striking manner the superior staying powers of the English as pitted against the hardy voyageurs—Canadians, Eskimos, Indians, and half-breeds. Five of the fifteen voyageurs perished and one of the English. Doubtless the latter survived largely through their powers of will, acts of energy and of heroic devotion to the interests of the party—one and all.

THE RETREAT OF ROSS FROM THE *VICTORY*

THE RETREAT OF ROSS FROM THE *VICTORY*

"For there is none of you so mean and base
That hath not noble lustre in your eyes."
—SHAKESPEARE.

AMONG the many notable voyages in search of the northwest passage, although less spectacular in phases of adventurous exploration than some others, there is none which deserves more careful examination than that of Sir John Ross in the *Victory*. Not only did this voyage make most important contributions to the various branches of science, but it was unequalled for its duration and unsurpassed in variety of experiences. It was fitted out as a private expedition, largely at the expense of Felix Booth, sheriff of London, was absent from 1829 to 1833, and was the first arctic expedition to use steam as a motive power.

Sailing in the small paddle-wheel steamer *Victory*, Ross passed through Baffin Bay into Lancaster Sound, whence he shaped his course to the south. Discovering the eastern shores of North Somerset and of Boothia, he put his ship into winter quarters at Felix Harbor, which became his base of operations. Rarely have such valuable explorations been made without disaster or even serious hardships. Boothia was found to be the most northerly apex of the continent of North America,

while to its west King William Land and other extended areas were discovered.

Of surpassing interest and importance was the magnetic work done by James Clark Ross, a nephew of Sir John. Many persons do not realize that the place to which constantly points the north end of the needle of the magnetic compass is *not* the north geographic pole. The locality to which the compass turns is, in fact, nearly fourteen hundred miles to the *south* of the north pole. With this expedition in 1830, James Clark Ross by his many observations proved that the *north magnetic pole*, to which the needle of the compass points, was then very near Cape Adelaide, in 70° 05′ north latitude, 96° 44′ west longitude.*

The adventures of the crew in their retreat from Boothia Land by boat and sledge are recorded in this sketch.

Captain Ross failing to free his ship from the ice the second summer, it was clear to him that the *Victory* must be abandoned the coming spring. It was true salmon were so abundant in the lakes of Boothia that five thousand were caught in one fishing trip, which netted six tons of dressed fish, but bread and salt meat, the usual and favorite food of the crew, were so short that it had become necessary to reduce the daily issues. Fuel was so reduced that none remained save for cooking, and the deck had to be strewn with a thick coating

* While the north magnetic pole constantly changes its position, yet such movements are very slow, and while at present its exact situation is not known, its locality is quite near this.

of gravel, for warmth, before the usual covering of snow was spread over the ship. Creatures of habit, the seamen now showed signs of depression bordering on discontent if not of despair.

There were two routes of retreat open to Ross, one being toward the south, attractive as being warmer

Boothia Peninsula and North Somerset.

and possibly more ice-free. He chose, however, the way to the north, which, desolate as it might be, was known to him both as to its food supplies and also as to the chances of meeting a ship. Every year the daring Scotch whalers were fishing in Lancaster Sound, and at Fury Beach, on the line by which he would travel, were large quantities of food, boats, and other

needful articles—landed from the wreck of Parry's ship *Fury* in 1825.

Ross did not plan his abandonment of the *Victory* any too early, for in January Seaman Dixon died and his mate Buck lost his eyesight from epilepsy. Signs of the dreaded arctic horror, scurvy, were not lacking, as the foolish seamen were averse to the antiscorbutic lime juice and refused to take the fresh salmon-oil ordered by the doctor. Ross was also affected, his old wounds breaking out afresh, reminders of the day when as a lieutenant he had aided in cutting out a Spanish ship under the batteries of Bilbao.

Knowing that the *Victory* would be plundered by the natives after its abandonment, Ross provided for a possible contingency of falling back on her for another winter, and so constructed a cave inshore in which were cached scientific instruments, ship's logs, accounts, ammunition, etc. Sledge-building began in January, and the dismantling of the ship proceeded as fast as the weakness of the crew permitted.

It was impossible to reach the open water of Prince Regent Inlet without establishing advance depots of provisions and of boats, as the conditions at Fury Beach were unknown. Floe-travel was so bad, and the loads hauled by the enfeebled men so small, that it took the entire month of April to move a distance of thirty miles two boats and food for five weeks, while open water was not to be expected within three hundred miles.

On May 29, 1832, the British colors were hoisted,

TRAVELLING OVER BROKEN FLOES.

From a sketch by Dr. Kane.

nailed to the mast, duly saluted, and the *Victory* abandoned. With the true military spirit Ross was the last to quit his ship, his first experience in forty-two years' service in thirty-six ships.

The prospects were dismal enough, with heavily laden sledges moving less than a mile an hour, while the party were encumbered by helpless men: these were moved with comfort by rigging up overhead canvas canopies for the sledge on which a man could be carried in his sleeping-bag.

The midsummer month of June opened with the sea ice stretching like solid marble as far north as the eye could reach. The change from forecastle to tent, from warm hammocks and hot meals to frozen blankets and lukewarm food, told severely on the worn-out sledgemen whose thirst even could be but rarely quenched until later the snow of the land began to melt. Now and then a lucky hunter killed a hare, or later a duck, still in its snowy winter coat, which gave an ounce or two of fresh meat to flavor the canned-meat stew.

Six days out the seamen, demoralized at their slow progress, sent a delegation asking the captain to abandon boats and food so that travelling light they might the earlier reach the Fury Beach depot. Ross with firmness reprimanded the spokesman and ordered the men to take up the line of march. He knew that food could not be thus wasted without imperilling the fate of the party, and that boats were absolutely essential. While striving to the utmost with the crew, coming a week later to a safe place he cached both boats, and

taking all the food sent his nephew ahead to learn whether the boats at Fury Beach were serviceable. After a journey in which young Ross displayed his usual heroic energy and ability, he brought the glad news that although a violent gale had carried off the three boats and seriously damaged one, yet he had secured all so that the boats of the *Victory* could be left behind.

July 1 brought the party to Fury Beach, where despite orders and cautions some of the hungry seamen gorged themselves sick. But the ice was still solid. Ross therefore built a house of canvas stretched over a wooden frame, and named the habitation Somerset House, as it was on North Somerset Land. Work was pushed on the boats, which were in bad shape, and as they were of mahogany they were sure to lack the fine flotation qualities of those left behind. Ross fitted his two boats with mutton sails, while the nephew put in sprit-sails.

Fortunately the food at Fury Beach had escaped the ravages of arctic animals, though the clever sharp-nosed foxes had scented the tallow candles, gnawed holes through the boxes, and made way with them all.

Everything was arranged for a long sea trip, each boat being loaded with food for sixty days and had assigned thereto an officer and seven seamen. The ice opening suddenly and unexpectedly, they started north on August 1, moving by oar-power, as the water lanes were too narrow and irregular for the use of sails. On the water once more, the crew thought their retreat

secure. They had hardly gone eight miles before they were driven to shore by the moving pack, and were barely able to draw up their boats when the floes drove violently against the rocks, throwing up great pressure-ridges of heavy ice and nearly destroying the boats. The men had scarcely begun to congratulate themselves on their escape from death in the pack when they realized that they were under conditions of great peril. They found themselves on a rocky beach, only a few yards in width, which was a talus of loose, rolling rocks at the base of perpendicular cliffs nearly five hundred feet high. As the ice which cemented the disintegrating upper cliffs melted, the least wind loosened stones, which fell in numbers around them, one heavy rock striking a boat's mast. Unable to escape by land, hemmed in by the closely crowding pack, they passed nine days unable to protect themselves, and fearing death at any moment from some of the falling stones, which at times came in showers. They were tantalized by the presence of numerous foxes and flocks of game birds, but they did not dare to fire at them, fearing that the concussion from the firing would increase the number of the falling rocks.

With barely room for their tents under the disintegrating precipice, with decreasing food, in freezing weather, without fuel, and with the short summer going day by day, they suffered agonies of mind and of body. Fortunately the ice opened a trifle to the southward so that they were able to launch the lightest boat, which went back to Fury Beach and obtained

food for three weeks. Driven ashore by the ice-pack on its return, the crew from Fury Beach managed with difficulty to rejoin the main party on foot. In this as in other instances they had very great difficulty in hauling up their heavy mahogany boats, it being possible to handle the heaviest only by tackle.

Through the opening ice they made very slow progress, being often driven to shore. Most rarely did anything laughable occur, but one experience gave rise to much fun. One morning the cook was up early to celebrate a departure from their usually simple meal. The day before the hunters had killed three hares, and the cook now intended to make a toothsome sea-pie, for which he was celebrated among the men. Half-awake, he groped around for his foot-gear, but could find only one boot. Rubbing his eyes and looking around him, he was astonished to see a white fox near the door of the tent calmly gnawing at the missing boot. Seizing the nearest loose article, he threw it at the animal, expecting that he would drop the boot. The half-famished fox had no mind to lose his breakfast, and holding fast to the boot fled up the hill, to the disgust of the cook and to the amusement of his comrades. To add to the fun they named the place Boot Bight, though some said that there was more than one bite in the lost boot.

A strong gale opening the sea, they improved the occasion by crossing Batty Bay, when the heavy mahogany boat of Ross was nearly swamped. She took in so much water that the crew were wet up to their knees, and it required lively work and good seamanship to save her.

After more than seven weeks of such terrible struggles with the ice, the three boats reached the junction of Prince Regent Inlet and Lancaster Sound, only to find the sea covered with continuous, impenetrable ice-floes. Ross cached his instruments, records, specimens, etc., for the following year, so as to return light to Somerset House.

There were objections to returning south on the part of some of the crew, who suggested that under the command of young Ross (and apparently with his approval) the stronger members should "take a certain amount of provisions from each boat and attempt to obtain a passage over the ice." This meant not only the division of the party, but almost certainly would have resulted in the death of all. For the crossing party, of the strongest men, would have reached a barren land, while the sick and helpless would have perished in trying to return alone to Somerset House (Fury Beach). Ross wisely held fast to this opinion, and the return trip began.

The delay caused by differences of opinion nearly proved fatal, owing to the rapidly forming new ice through which the boats were only moved by rolling them. The illy clad men now suffered terribly from the cold, as the temperature was often at zero or below. It was so horrible to sleep in the open, crowded boats that they sought the shore whenever possible. Generally there was neither time nor was there fit snow to put up a snow-hut, and then the men followed another plan to lessen their terrible sufferings and sleepless

nights. Each of the seamen had a single blanket, which had been turned into a sack-shaped sleeping-bag so that their feet should not become exposed and freeze while they were asleep. Each of the three messes dug a trench, in a convenient snow-drift, long enough and wide enough to hold the seven sleeping-bags when arranged close together. Thrown over and covering the trench was a canvas sail or tent, and the canvas was then overlaid with thick layers of snow, which thus prevented any of the heat of the men from escaping. Very carefully brushing off any particles of snow on their outer garments, the men carefully wormed themselves into their sleeping-bags, and by huddling together were generally able to gain such collective heat as made it possible for them to drop off to sleep.

Whenever practicable they supplemented their now reduced rations by the hunt, but got little except foxes and hares. The audacity of the white arctic foxes was always striking and at times amusing. Once a thievish fox crept slyly into a tent where the men were quietly awaiting the return of a comrade for whose convenience a candle was kept lighted. The candle smelt and looked good to Master Fox, who evidently had never seen such a thing as fire before. Running up to the candle, he boldly snapped at it, when his whiskers were so sorely singed that he departed in hot haste. All laughed and thought that was the end of the affair. But a few minutes later, discomfited but not discouraged, Master Fox, with his scorched head-fur, appeared again in the tent. He had learned his lesson, for avoid-

ing the candle he snapped up the sou'wester of the engineer and made off with it though a watching sailor threw a candlestick at him.

The weather soon became most bitterly cold, and as they sailed or rowed toward Fury Beach the sea-water often froze as it fell in driblets on their garments. Food was reduced a third, as Ross knew that a return in boats was now doubtful. A gale drove them to a wretched spot, a rocky beach six feet wide beneath frowning cliffs many hundreds of feet high. Their food was now cut off one-half, and the daily hunt brought little—a few foxes and sea-gulls, with an occasional duck from the southward-flying flocks.

Near Batty Bay they were caught in the ice-pack two miles from land and their fate was for a time doubtful. Only by almost superhuman efforts did they effect their release. The cargo was carried ashore by hand, and by using the masts as rollers under the hulls of the boats—though often discouraged by their breaking through the new, thin ice—they managed at last to get the boats safe on shore. It might be thought that three years of arctic service would have taught the men prudence, but here one of the sailors in zero weather rolled a bread-cask along the shore with bare hands, which caused him to lose the tips of his fingers and obliged other men to do his duty.

It was now necessary to make the rest of the journey to Fury Beach overland. Fortunately there were some empty bread-casks out of which the carpenter made shift to build three sledges. The party left everything

behind for the journey of the next spring, taking only tentage, food, needful tools, and instruments. The way lay along the base of precipitous cliffs, with deep drifts of loose snow on the one hand, and on the other rough ridges of heavy ice pushed up from the sea. Hard as were the conditions of travel for the worn-out seamen, they were much worse for the crippled mate, Taylor, who could not walk with his crutches, and who suffered agony by frequent falls from the overturning sled on which he had to be hauled. The first day broke one sledge, and with zero temperatures the spirits of the men were most gloomy. Being obliged to make double trips to carry their baggage, some of the sailors complained when told off to return for the crippled mate. Ross shamed them into quiet by telling them how much better was their case to be able to haul a shipmate than was that of the wretched mate dependent on others for life and comfort.

How closely the party was pressed by fate is shown by their eating the last morsel of their food the day they reached Somerset House. As they approached a white fox fled from the house, but though dirty, cold, hungry, and exhausted, they were happy to reach this desolate spot which they now called home.

Apart from the death of the carpenter, the winter passed without any distressing events, though some of the men failed somewhat in strength. It was a matter of rejoicing that in the early spring they obtained fresh meat by killing two bears. The carcass of one of them was set up as a decoy, and one of the seamen stuck a

piece of iron hoop into it as a tail. Soon frozen solid, it attracted another bear, who rushed at it and after capsizing it was killed by a volley from sailors lying in wait.

Careful plans were made for the summer campaign. Stoves were reduced to one-fourth of their original weight and sledges were shod from ice-saws. The three sledges were fitted with four uprights, with a canvas mat hauled out to each corner. On this upper mat the sick and helpless men were laid in their sleeping-bags, and thus could make with comparative comfort any sledge journeys that might be necessary. It was deemed advisable to provide for travel either by land or by sea.

The ice of Prince Regent Inlet held fast far into the summer, and at times there stole into the minds of even the most hopeful and courageous a fear lest it should not break up at all. Birds and game were fairly plentiful, far more so than in the preceding year, but all hope, care, and interest centred in the coming boat journey. No one could look forward to the possibility of passing a fifth year in the arctic regions without most dismal forebodings as to the sufferings and fatalities that must result therefrom. The highest cliffs that commanded a view of the inlet to the north were occupied by eager watchers of the ice horizon. Day after day and week after week passed without the faintest signs of water spots, which mark the disintegrating pack and give hopes of its coming disruption. Would the pack ever break? Could that vast, unbroken extent of ice ever waste away so that boats could pass? A thousand

times this or similar questions were asked, and no answer came.

Midsummer was far past when, by one of those sudden and almost instantaneous changes of which the polar pack is possible, a favorable wind and fortunate current dissipated the ice-covering of the inlet, and alongshore, stretching far to the north, an ice-free channel appeared.

With the utmost haste the boats were loaded, the selected stores having long been ready, and with hearts full of hope they started toward the north. Ross and his officers fully realized that this was their sole and final chance of life, and that failure to reach the whalers of Barrow Strait or Baffin Bay meant ultimate death by starvation.

Amid the alternations during their voyage, of open water, of the dangerous navigation of various ice streams, and of the tantalizing land delays, when the violent insetting pack drove them to the cliff-bounded beaches of North Somerset, even the feeblest worked with desperate energy, for all knew that their lives depended on concerted, persistent, intelligent action.

The ice conditions improved as they worked to the north end of Prince Regent Inlet, and finally the pack was so disrupted and wasted that they crossed to Baffin Land without difficulty.

Skirting the northern coast of that desolate land, they sailed to the eastward, hoping almost against hope to see a friendly sail, for the season was passing and the nights had begun to lengthen rapidly.

On the morning of August 25, 1833, their feelings were raised to an intense pitch of excitement by the sight of a sail, which failed to detect in turn the forlorn castaways. Though some fell into deep despair as the ship stood away, the more rational men felt assured of their final safety, since whalers were actually in the strait. A few hours later they were fortunate enough to fall in with and to be picked up by the whaler *Isabella*, a remarkable incident from the fact that she was the arctic ship which Sir John Ross had commanded in his expedition of 1818 to Baffin Bay.

When Ross answered the hail from the astonished captain of the *Isabella*, it was a unique and startling greeting that he received. For when answering that he was Captain John Ross, the captain of the whaler blurted out, "Why, Captain Ross has been dead two years," which was indeed the general belief.

After investigating the affairs of the expedition, a committee of Parliament reported "that a great public service had been performed [with] deeds of daring enterprise and patient endurance of hardships." They added that Captain John Ross "had the merit of maintaining both health and discipline in a remarkable degree . . . under circumstances the most trying to which British seamen were perhaps ever subjected."

Through daily duty well done, by fidelity to work in hand, and by unfailing courage in dire extremities, Sir John Ross and his expeditionary force won their country's praise for heroic conduct.

THE DISCOVERY OF THE NORTHWEST PASSAGE

THE DISCOVERY OF THE NORTHWEST PASSAGE

"He came not. Conjecture's cheek grew pale.
Year after year, in no propitious gale
His banner held its homeward way,
And Science saddened at her martyr's stay."

—ANON.

FEW persons realize the accompaniments of the prolonged search by England for the northwest passage, whether in its wealth of venturesome daring, in its development of the greatest maritime nation of the world, or in its material contributions to the wealth of the nations. Through three and a half centuries the British Government never lost sight of it, from the voyage of Sebastian Cabot, in 1498, to the completion of the discovery by Franklin in 1846–7. It became a part of the maritime life of England when Sir Martin Frobisher brought to bear on the search "all the most eminent interests of England—political and aristocratic, scientific and commercial." To the search are due the fur-trade of Hudson Bay, the discovery of continental America, the cod-fishery of Newfoundland, and the whale-fishery of Baffin Bay. For the discovery of the northwest passage various parliaments offered a reward of twenty thousand pounds sterling.

An enterprise that so vitally affected the maritime policy of England, and in which the historic explorer,

Henry Hudson, and the great navigator, James Cook, met their deaths, involved many heroic adventures, among which none has engaged more attention than

Franklin's route on the northwest passage.

the fateful voyage of Sir John Franklin and his men, by which the problem was solved.

Among the many notable and interesting paintings in the Tate Gallery, one of the famous collections of pictures in London, is one by Sir John Millais, entitled "The Northwest Passage." A young girl is reading tales of arctic travel and of bold adventure to her listening father, whose tightly closed right hand she affection-

ately fondles as the thrilling story reaches its climax. On the table is an outspread map of North America, consulted often by the attentive readers, whereon blank spaces denote regions as yet unknown to man. The tale done, the old, grizzled, weather-beaten sailor, whose clinched hands and fixed eyes betray his strong emotion, cries out: "It can be done, and England should do it!" Few pictures, in title and in subject, have more forcibly portrayed that pride of achievement which is the glory of Britain.

The tale of the northwest passage in its last phase of discovery cannot anywhere be found in a distinct and connected form. As a record of man's heroic endeavor and of successful accomplishment at the cost of life itself, it should be retold from time to time. For it vividly illustrates an eagerness for adventurous daring for honor's sake that seems to be growing rarer and rarer under the influences of a luxurious and materialistic century.

When in 1845 the British Government decided to send out an expedition for the northwest passage, all thoughts turned to Franklin. Notable among the naval giants of his day through deeds done at sea and on land, in battle and on civic duty, he was an honored type of the brave and able captains of the royal navy. Following the glorious day of Trafalgar came six years of arctic service—whose arduous demands appear in the sketch, "Crossing the Barren Grounds"—followed by seven years of duty as governor of Tasmania. But these exacting duties had not tamed the adventurous

spirit of this heroic Englishman. Deeming it a high honor, he would not ask for the command of this squadron, for the expedition was a notable public enterprise whereon England should send its ablest commander.

When tendered the command the public awaited eagerly for his reply. He was in his sixtieth year, and through forty-one degrees of longitude—from 107° W. to 148° W.—he had traced the coast of North America, thus outlining far the greater extent of the passage. But his arctic work had been done under such conditions of hardship and at such eminent peril of life as would have deterred most men from ever again accepting such hazardous duty save under imperative orders.

Franklin's manly character stood forth in his answer: "No service is dearer to my heart than the completion of the survey of the northern coast of North America and the accomplishment of the northwest passage."

Going with him on this dangerous duty were other heroic souls, officers and men, old in polar service, defiantly familiar with its perils and scornful of its hardships. Among these were Crozier and Gore, who, the first in five and the last in two voyages, had sailed into both the ice-packs of northern seas and among the wondrous ice islands of the antarctic world.

Sailing May 26, 1845, with one hundred and twenty-nine souls in the *Erebus* and the *Terror*, Franklin's ships were last seen by Captain Dennett, of the whaler *Prince of Wales*, on July 26, 1845. Then moored to an iceberg, they awaited an opening in the middle pack through which to cross Baffin Bay and enter Lancaster Sound.

THE NORTHWEST PASSAGE.

From the painting by Sir John Millais.

Franklin's orders directed that from Cape Walker, Barrow Strait, he should "endeavor to penetrate to the southward and to the westward, in a course as direct to Bering Strait as the position and extent of the ice, or the existence of the land at present unknown, may admit."

His progress to the west being barred by heavy ice, he sailed up the open channel to the west of Cornwallis Land, reaching 77° N., the nearest approach to the north pole in the western hemisphere that had been reached in three centuries, and exceeded alone by Baffin in 1616, who sailed forty-five miles nearer. Returning to the southward, the squadron went into winter quarters at Beechey Island, 74° 42′ N., 91° 32′ W.

Knowing the virtue of labor, the captain set up an observatory on shore, built a workshop for sledge-making and for repairs, and surely must have tested the strength and spirit of his crews by journeys of exploration to the north and to the east. It is more than probable that the energy and experiences of this master of arctic exploration sent the flag of England far to the north of Wellington Channel.

Affairs looked dark the next spring, for three of the men had died, while the main floe of the straits was holding fast later than usual. As summer came on care was given to the making of a little garden, while the seaman's sense of order was seen in the decorative garden border made of scores of empty meat-cans in lieu of more fitting material.

They had built a canvas-covered stone hut, made wind-proof by having its cracks calked, sailor-fashion, by bunches of long, reddish mosses. This was the sleeping or rest room of the magnetic and other scientific observers, who cooked their simple meals in a stone fireplace built to the leeward of the main hut. Here with hunter's skill were roasted and served the sweet-meated arctic grouse savored with wild sorrel and scurvy grass from the near-by ravines.*

Looking with eager eyes for all things new, as must those who sailed with Franklin, they saw strange sights —unknown forms of nature to non-arctic sailors. In the days of melting snow, during the quick-coming, swift-flying polar spring, among all things white and colorless, they must have been struck by the high colors of the many little fresh-water pools whose vivid greens and brilliant reds catch and please an eye wearied and dulled by the sombre arctic landscape. Around the edge of these tiny ponds form thick coatings of bright-green, thread-like algæ (fresh-water plants somewhat like kelp or sea-weed). The stones at the bottom of the centre of the pools were incrusted by the red snow plant whose rich colors gave a sense of life to the near-by shallows.

In such haste Franklin put to sea that the customary rule was not observed of building a cairn in a promi-

* These details as to the life of the squadron are drawn from various accounts of the hut, fireplace, pools, vegetation, bird-remains, and other domestic refuse discovered by the officers and men under Ommaney and Penny in August, 1850. Three graves with head-boards were found, but no trace or scrap of record or journal of any kind. They were the first traces discovered of Franklin's movements.

nent place and of placing therein a record of operations to date. Doubtless the sea opened suddenly by one of those offshore winds which bring ice-free water as by magic. But they must have left the land for the open sea with the free joy of the sailor, not knowing that fate had been kinder to the three comrades who rested under the arctic sky in the quiet island graves than to those who with brave hearts and high hopes sailed ever onward and onward.

Soon Franklin sighted Cape Walker, whence he should sail to the west and south as conditions of the land and the ice might permit. From the record recovered from the cairn at Point Victory, he seems to have been forced to go south through Peel Sound into Franklin Strait, where we know that both the flag-ship *Erebus* and the *Terror* were beset in the floe-ice of the open sea and were frozen up in the winter pack twelve miles north-northwest of King William Land. This besetment, on September 12, 1846, must have been a grievous blow to Franklin, who was now practically assured of the existence of the northwest passage along the continental coast of North America. He was directly to the north of and only eighty-four miles distant from Cape Herschel, King William Land, which in 1839 had been discovered and visited by that successful explorer, Thomas Simpson, one of the most active of the many energetic agents of the Hudson Bay Company.

The polar winter, tedious and dreary at any time, must have been of fearful and almost unendurable

length to those eager, ambitious men who, helpless and idle in their ice-held ships, knew that they had substantially finished the search which for two hundred and forty-nine years had engaged the heart and hand of the best of the marine talent of England. The winter passed, oh! how slowly, but it ended, and with the welcome sun and warmer air of coming spring there was a cheerful sense of thankfulness that death had passed by and left their circle unbroken and that "all were well." *

A man of Franklin's type did not let the squadron remain idle, and it is certain that the shores of Victoria and Boothia Peninsula were explored and the magnetic pole visited and definitely relocated.

The only sledge-party of which there exists a record is that which left the ships on May 24, 1847, consisting of Lieutenant Graham Gore, Mate Des Voeux, and six men. Its small crew, led by a junior officer, indicates that its objects were subordinate to those pursued by other parties. Most probably it was a hunting-party in pursuit of the game of King William Land, which now was a matter of grave urgency to Franklin. The excessive number of empty meat-cans at Beechey Island is believed to be due to the inferior character of the meat which led to much being condemned. The

* The primary importance of concerted and co-operative action in explorations covering such a broad field was strikingly illustrated by the situation at this time. While Franklin and his men were facing disaster and death in their ice-bound ships to the west of Boothia Felix Land, that distinguished arctic traveller, John Rae, was exploring Boothia Peninsula. On April 18, 1847, he was less than one hundred and fifty miles from his sorely distressed countrymen.

large number of deaths which quite immediately followed Gore's journey may well have been associated with the coming of scurvy from malnutrition.

At all events, Gore reached Point Victory, King William Land, on May 28, and there built a cairn and deposited the one of the two only records of Franklin's squadron of any kind that have been found.* It set forth Franklin's discoveries around Cornwallis Land, the wintering at Beechey Island, and the besetment and wintering in the pack of the *Erebus* and *Terror* in 70° 05′ N., 98° 23′ W. It ended with the encouraging statement that all were well and Sir John Franklin in command.

From the Crozier record, to be mentioned later, it is known that evil days followed immediately the favorable conditions set forth by Gore. Sir John Franklin was spared the agony of watching his men and officers perish one by one of exhaustion and starvation, for the record tells us that he died on the ice-beset *Erebus*, June 11, 1847, fourteen days after the erection of the Point Victory cairn. Death was now busy with the squadron, and within the next eleven months seven officers, including Gore, and twelve seamen perished, probably from scurvy.

Franklin's last days must have been made happy by the certainty that his labors had not been in vain, since it was clearly evident that he had practically finished the two labors dearest to his heart—"the completion

* The full text of this record will be found in the sketch entitled "The Devotion of Lady Jane Franklin."

of the survey of the northern coasts of North America and the accomplishment of the northwest passage." The drift of the ships to the southwest with the main pack carried them to within sixty-five miles of Cape Herschel, and the chart taken by Franklin showed a distance of only fifty-five miles of unknown lands to connect the discoveries of Ross with those of Dease and Simpson. Doubtless the evidence of the drift had been supplemented by an exact survey of the coast by sledge. It is incredible to assume that the energetic Franklin allowed his men to remain inert for eight months within a score of miles of unknown lands.

The ice holding the ships fast until the spring of 1848, it was necessary for Captain F. R. M. Crozier, now in command, to abandon them, as they were provisioned only until July. It was evident that the only chance of life was to reach the Hudson Bay posts, via Back (Great Fish) River, two hundred and fifty miles distant. While it would not be possible to haul enough food for the whole party, they had good reasons to believe that they could live in part on the country. Simpson had reported large game as plentiful along the south coast of the island, while Back spoke of thousands of fish at the river's mouth.

Arrangements for the retreat were made by landing on April 22, 1848, on King William Land abundant supplies of bedding, tentage, provisions, clothing, ammunition, etc., and a large camp was there established. Sledges were strengthened and boats fitted thereon with which to ascend Back River and if necessary to

cross Simpson Strait. Great haste was made, for they were ready to start south on April 25, 1848, on which date the record of Gore was supplemented by another signed by Crozier and his second in command, Captain James Fitzjames. It recorded that Gore had returned to the *Erebus* from his sledge journey in June, 1847, and was now dead, as well as twenty others. It added: "Sir John Franklin died on the 11th of June, 1847. The officers and crew, consisting of 105 souls, . . . start on to-morrow, 26th, for Back's Fish River." *

Struggling south along the west coast of King William Land, their progress was slow owing to illness, impaired strength, and their very heavy, unsuitable field equipment. Doubtless some one fell out of the sledge-traces daily, and doubtless, with the spirit of heroic Britons, they acclaimed with cheers their final success when they had dragged their heavy boat to the north side of Simpson Strait and thus actually filled in the last gap in the northwest passage.

Their provisions ran low and Lieutenant John Irving went back to the ship for other supplies, but his heroic zeal was superior to his strength. He was buried on the beach in full uniform, encased in a canvas shroud.† Of his party one at least reached the ship, and died on board of the *Erebus* or *Terror*, which, according to the reports of the Eskimos, sank later off the west coast of Adelaide Peninsula. Two others of this detachment evidently endeavored to rejoin the main party, but

* For full text, see sketch "The Heroic Devotion of Lady Jane Franklin."

† Many of these details are from Gilder's "Schwatka's Search," a remarkable expedition by these young Americans.

died in an abandoned boat. With hope and patience they waited for the coming of game that would save their lives, and alongside their skeletons thirty years later were found, standing, their muskets loaded and cocked for instant use.

Graves and skeletons, boats and tents, clothing and camp-gear silently tell the tragic tale of that awful march, which has been traced from Point Victory to Montreal Island through the heroic researches of Hobson and McClintock, of Hall, Schwatka, and Gilder.

No weaklings were they, but as true men they strove with courage and energy to the very end. At least one brave man died on the march, and his skeleton lying on its face verified the truth of the terse tribute of the Eskimo woman who said to McClintock: "They fell down and died as they walked."

One boat's crew perished on the west coast of Adelaide Peninsula, and another entered the mouth of Back River, to die one knows not how or where. The skeleton found farthest to the south is, perchance, that of the last survivor, possibly Surgeon Stanley of the *Erebus*, as "Mr Stanley" was found carved on a stick found on Montreal Island in 1855.

Of the last survivor, MacGahan, in "Northern Lights," thus surmises: "One sees this man all alone in that terrible world, gazing around him, the sole living thing in that dark, frozen universe. There is no hope for him—none. His clothing is covered with frozen snow, his face is lean and haggard. He takes out his note-book and scrawls a few lines, as he has done every

day. A drowsy torpor is crawling over his senses. It will be sweet to sleep, untroubled by dreams of void and hunger. Through a rift in the clouds glares a red flash of light, like an angry, blood-shot eye. He turns and meets the sinister sunbeams with a steady eye, in which a fiery gleam is reflected, as though bidding defiance. As they glare at each other, this man and this spectre, the curtain is drawn and all is dark."

This we know, that with loyalty and solidarity these heroic men kept fast in their path of daily duty, facing unflinchingly cold and disease, exhaustion and starvation, and, as has been truly said, they thus "forged the last link of the northwest passage with their lives."

Rightly are the loftiest strains of the poet's songs invoked by steadfast fortitude and by the spirit of high endeavor rather than by physical acts of intrinsic value. So for more than a generation, as a reminder of heroic worth, the students of Oxford University have year by year turned into classic latin verse the memorial lines of the poet-laureate. Avoiding mention of the northwest passage, Tennyson raised to Franklin's "memory a monument more lasting than brass" when he penned these enduring lines:

"Not here, not here. The White North has thy bones,
But thou, heroic sailor-soul,
Art sailing on a happier voyage,
Now toward no earthly pole."

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THE TIMELY SLEDGE JOURNEY OF BEDFORD PIM

THE TIMELY SLEDGE JOURNEY OF BEDFORD PIM

THE TIMELY SLEDGE JOURNEY OF BEDFORD PIM

"Huddled on deck, one-half that hardy crew
Lie shrunk and withered in the biting sky,
With filmy stare and lips of livid hue,
And sapless limbs that stiffen as they lie;
While the dire pest-scourge of the frozen zone
Rots through the vein and gnaws the knotted bone."

—BULWER.

FOR more than three centuries England made frequent and fruitless attempts by sea and by land to discover the northwest passage, and in 1818 the British Parliament offered a reward of twenty thousand pounds sterling for its passage by explorers. Although it is now known that the ill-fated expedition under Sir John Franklin first discovered the passage in 1846–7, the first persons to make the journey over a new and more northerly route, between 1849 and 1853, were the crew of her Majesty's ship *Investigator*, commanded by Captain Robert Le Mesurier M'Clure, R.N.

It is a curious and notable fact that the making of the passage was, as one may say, a matter of luck or of accident. There occurred in connection with this journey a series of adventures that had marvellous results, not only in the saving of the lives of the crew of the *Investigator*, but also in raising them to the pinnacle of fame and some of them to a state of fortune. M'Clure's

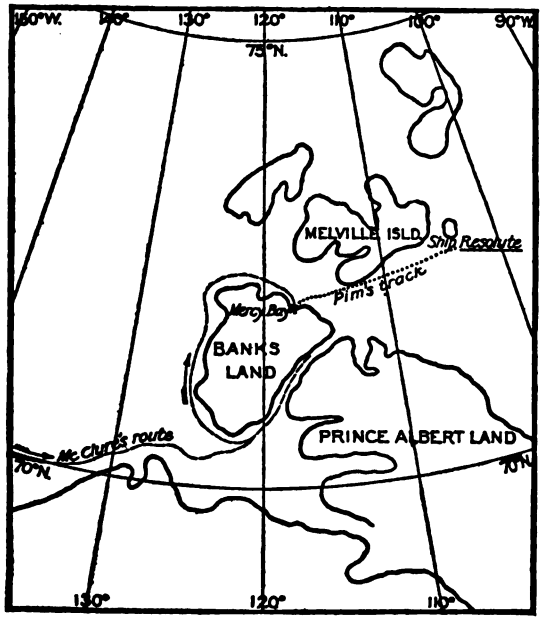
ship was not sent forth on a voyage of geographic exploration, but on a mission of mercy for the discovery and relief of the Franklin arctic squadron which had been missing since 1845. The Pacific searching squadron for this purpose, commanded by Captain Robert Collinson, R.N., consisted of the two ships *Enterprise* and *Investigator*, which parted company in Magellan Strait under orders to meet at Cape Lisburne, Bering Strait. Captain M'Clure arrived first, and after a very brief delay pushed on without waiting for his commander. The two ships never met again.

Discovering Banks Land, which the Eskimo called "The Land of the White Bear," M'Clure followed Prince of Wales Strait to its northern entrance, where he anchored his ship to a floe and wintered in the open pack in default of a harbor. Retracing his course to the south the following summer, he circumnavigated Banks Land under marvellous ice conditions of great danger, escaping as by miracle, the *Investigator* being so near the sheer, precipitous crags of the west coast that her yards could touch the cliffs, while to the seaward she was cradled in crashing, uprearing floes which close to her bows were higher than the foreyard. After reaching Banks Strait the ship grounded one night and M'Clure unfortunately decided to winter there, in Mercy Bay, where she was frozen in and abandoned two years later.

This sketch sets forth the desperate extremities to which M'Clure and his crew were reduced, and describes the timely heroism of Lieutenant Bedford Pim, R.N.,

in making the sledge journey which wrought such marvellous changes in the fate and fortunes of the ice-imprisoned men.

On September 23, 1851, the *Investigator* was frozen in for the winter in the ice of Mercy Bay, on the north



Route of Pim's sledge journey.

coast of Banks Land. It was her second arctic winter, and the hardships inseparable from prolonged polar service were soon felt. The crew were at once placed on two-thirds allowance, a restricted diet that kept them always hungry. Soon they felt the shadowy pres-

ence of the twin arctic evils, famine and cold, which came with the forming ice and the advancing winter. Through the open hatchways the down-flowing polar cold turned into hoar-frost the moisture of the relatively warm air of the cabins and of the bunks. Water froze in the glasses and frost particles welded into stiffness the blankets, bedding, and hammocks of the seamen. Later even the ink froze in the wells, while the exposed head of every metal bolt or nail was covered with a glistening coat of ice.

Shoreward the outlook was as desolate as conditions were gloomy on shipboard. For at first the ice-bound shores of Mercy Bay seemed utterly barren of life in any form. But one day came with joy and thankfulness the report that a sharp-eyed boatswain had seen several deer skirting the snowy hill-tops to the southwestward.

Now all was activity and bustle, since this phase of useful effort had come to increase their chance of life. Should they fail to release the ship the coming summer, death by famine sorely threatened. So they pursued the chase daily with the utmost energy and for a time with marked success. Not only did the hunters meet with the timid deer and the stolid musk-ox—their main reliance for meat—but here and there they found the snowy polar hare, the cunning arctic fox, and too often, alas! the ravenous wolf—the dreaded pirate of the north.

Regular hunting-parties were told off, consisting of the best shots and most active men. To save long journeys to and from the ice-beset ship, tents were erected at convenient places and stored with food and

needful conveniences. Owing to the usual darkness, the safe, sane rule was laid down that no hunter should venture alone out of sight of either tent or ship, of some member of a field party, or of a prominent landmark.

One day an eager seaman, rushing forward to get within gun-shot of a fleeting musk-ox, when outdistanced by the animal found that he was out of sight of his comrades and could find no familiar landmark by which to guide him back to ship or tent. Night coming on, he was in sad plight in the darkness, illy clad for long exposure, lost and alone. Now and then he fired a shot, but his straining ears heard no responsive signal from his shipmates. After tramping to and fro for several hours, he was so worn out that he sat down to regain his strength, but he soon found that his clothing, wet with the sweat of travel, had frozen stiff. To save himself from death by freezing, he began walking slowly about, keeping to a restricted circle so that he should not wander farther from his anxious comrades.

While tramping to and fro his listening ear, eager for any sound of life, detected a slight rustling noise. Turning quickly he saw close behind him the form of a beast, which loomed large in the faint light of the rising moon. He had neither need to reason nor time to draw on his fancy as to the character of his unwelcome pursuer, for a weird resounding howl called forth at once an answering chorus. A ravenous wolf had marked the hunter as his prey and was calling his gaunt and cruel comrades to the bloody, looked-for feast.

The tales of the forecastle had been filled with grew-

some details of the ravages of wolves, so that the seaman was doubly horrified to find a band of polar pirates on his trail. Though knowing his frightful plight, he faced expectant death with courage and composure, putting on a bold front. Shortly the wolves followed their customary tactics, so successful in killing reindeer or musk-oxen. Forming a circle around the hunter, a wolf would jump quickly toward the man's back, the animal alertly withdrawing as he was faced. Again several would make a sudden and united plunge toward their intended victim—coming from separate directions. Greatly alarmed at this concerted attack, the seaman fired at the nearest wolf. When the band, alarmed at the bright flame and loud noise from the musket—unknown to the arctic wolf—fled a short distance the seaman at once ascended a small knoll where he would be better placed for defence. From this point of vantage he waged successful warfare by timely shots at individual attacking wolves.

But the time came when he had fired every shot in his locker, and then the band fell back a little way and seemed to be deliberating as to what should be done next. Expecting another concerted attack, the seaman took his hunting-knife in one hand so that he could stab any single wolf, and grasped his musket firmly in the free hand so as to use it as a club.

While in this fearful state he was intensely relieved by seeing the whole pack rush madly away. Though the hunter never knew for a certainty, his relief was doubtless due either to the coming of a polar bear,

feared by the wolves, or to the scenting of an attractive musk-ox. With anxious heart he awaited the coming daylight, when he was able to locate himself and rejoin the comrades who were in wild search for him.

This was not an isolated case of the boldness and tenacity of the wolves, who were a constant menace not only to the hunters personally—who kept well together after this experience—but to the game resources of the country. On another occasion three men started out to bring to the ship the carcass of a deer which had been killed the day before. The boatswain walking in advance reached the deep ravine in which he had cached the deer, only to find a pack of five large, gaunt wolves rapidly devouring the carcass. As he went forward he expected that the animals would leave, but none stirred at his approach, their famished condition seeming to banish fear of man. Though he shouted at the top of his voice and brandished his musket, three of the wolves fell back only a few yards, when they squatted on their haunches and kept their sharp eyes fixed on him. The two other wolves paid no attention to the hunter, but continued to devour ravenously the dismembered animal. The boatswain seized a hind leg of the deer, but Master Wolf, not at all disconcerted, held fast to the other end in which his sharp teeth were deeply fixed. The other wolves now set up a snarling chorus of encouragement to their fellow and of defiance to the intruder at their feast. However, the undismayed sailor, holding fast with one hand to the deer's hind leg, brandished his musket vigorously with the

other and yelled at the top of his voice to his comrades coming over the hill. He did not wish to use his precious ammunition on the wolves, as the supply was now so small as to forbid its waste. The daring animal at last dropped his end of the deer, but stood fast within a yard or two, ready to renew his attack at a favorable opportunity. The hunter cautiously gathered up, piece by piece, the remnants of his fat game, the pack all the time howling and snarling and even making dashes at the brave seaman who was robbing them of their dinner.

Meanwhile the Eskimo interpreter, Mr. Miertsching, a Moravian missionary of German birth, came up in a state of excitement which turned to fear at the scene. His long service in Labrador had made him familiar with the audacity and prowess of the wolf, and he viewed uneasily the menacing attitude of the five wolves, who plainly intended to attempt the recovery of the deer meat. It was not until two other armed men came up that the wolves took to the hills, howling defiantly.

It was the rule of the ship that a hunter should have the head and the heart of any animal he killed, thus to encourage the activity and success of the hunters. Though there were less than twenty pounds saved from the deer, a generous portion went to the gallant seaman who had fought off so successfully the predatory gang.

With the opening summer of 1852 affairs were most critical, as the ship remained fast in the ice, with no signs

of relief. In July Surgeon Alexander Armstrong urged that the allowance of food be increased, as the year of short rations had caused scurvy among one-third of the crew. As all fresh meat was then gone, M'Clure refused to make larger food issues.

At this critical juncture, Woon, a sergeant of marines, shot two musk-oxen under rather thrilling and unusual circumstances. While hunting, the sergeant discovered two musk-oxen lying down, one of them evidently asleep. Creeping quietly toward them, taking advantage of such cover as the nature of the ground afforded, he was within nearly a hundred yards when the alarmed oxen scrambled to their feet. Firing at the larger ox, he wounded him, but not fatally. The musk-ox charged him, stopping within about forty yards. A second shot only caused the animal to shake his black mane and toss his horns in a threatening manner. Meanwhile the second ox ran forward, as though to help his comrade, and was in turn wounded by a shot from the now alarmed hunter. The second animal then rushed toward the sergeant in a thoroughly enraged attitude, and though much smaller than his companion advanced with much more courage than had the first. With his last ball the hunter fired at the larger animal, as being more important to the larder, who, shot through the brain, fell dead in his tracks.

Hastily loading his musket with a part of his remaining powder, the sergeant was forced to use the screw of his ramrod as a missile, with which he pierced the neck of the steadily advancing musk-ox. As this still failed

to check the advance the hunter withdrew slowly, reloading his gun with his single remaining missile, the ramrod of the musket. By this time the thoroughly enraged animal was within a few feet of the sergeant when the last shot was fired. The ramrod passed diagonally through the body of the ox, making a raking wound from which the animal fell dead at the very feet of the anxious hunter. The larger musk-ox, with its shaggy mane, curly horns, menacing air, and formidable appearance, was quite a monster. Its huge head and massive horns made up one hundred and thirty pounds of its full weight of seven hundred and sixty-seven pounds.

During the brief arctic summer, under the surgeon's orders, the valleys were searched for sorrel and scurvy grass, which contributed to the improved physical health of the men. It was not possible, however, to dispel the mental dejection that affected all of the crew as the summer passed without such changes in the ice as would permit the *Investigator* to be moved. All knew that the ship's provisions were inadequate for another year, which must now be faced. If game was not killed in much larger quantities, it would be necessary to face death by starvation, unless some unforeseen and providential relief should come to them.

After long deliberation M'Clure made known his plans to the assembled crew on September 9, 1852. In April twenty-eight men and officers would be sent eastward with sledges to Beechey Island, five hundred and fifty miles distant. At that point they would take

a boat and stores there cached and endeavor to reach the Danish settlements on the west coast of Greenland. Nine other men would endeavor to reach the Hudson Bay posts via the Mackenzie River, taking up en route the cache of provisions deposited by the *Investigator* on Prince Royal Islands in 1850. Thirty of the healthiest of the crew would remain with the ship for the fourth arctic winter, awaiting relief from the British Admiralty in 1854.

Of necessity the daily allowances were again reduced, so that the amount of food issued was six ounces of meat, ten of flour, and two and one-half of canned vegetables. Surgeon Armstrong records that "the feeling was now one of absolute hunger, the cravings of which were ever present."

The ration was generally eaten by the officers at a single meal, and to insure exact fairness, and to remove any ground for complaint, the mess adopted the rule that turn about should be taken in the disagreeable duty of making the daily issue. The officer of the day arranged the food in as many portions as there were persons. Then, in an order fixed by lot, each officer inspected the various piles of food and chose that which most pleased him. The officer making the division for the day took the lot left.

It is to be presumed that the men suffered even more than the officers on these starvation rations. Certainly they were unable to restrain their feelings as well as did the officers, and on October 4, 1853, occurred an act doubtless unprecedented in the royal navy. Suf-

fering from prolonged cravings of hunger, made more acute by the late reduction of food and by the severe winter cold, the ship's crew assembled on the quarter-deck in a body and asked Captain M'Clure for more food, which he refused to grant.

By hunting, which duty now fell almost entirely on the officers, a few ounces of fresh meat—deer, field-mice, or even wolf—were now and then added to their meagre meals. The fortunate hunter, besides his game perquisites of head and heart, also enjoyed other privileges that almost always brought him back to the ship in a condition that made him a frightful spectacle from blood and dirt. When he killed a deer or other animal, the first act of the hunter was to put his lips to the mortal wound and take therefrom a draught of fresh, warm blood that ebbed from the dying animal. In taste and in effect this blood was found to be very like a warm uncooked egg. As water for washing was precious and rarely to be had, owing to lack of fuel, and then in small amounts, the ghastly spectacle that a man presented when the blood of an animal was glued over his face, and was frozen into the accumulated grime of weeks without washing, may be better imagined than described.

The awful cold in which lived and hunted these half-starved men taxed to the utmost their impaired powers of endurance. For two days in January the temperature was ninety-one degrees below the freezing-point, and the average for that month was four degrees below that of frozen mercury.

The pall of gloom and despair that had come with the winter darkness, from the frightful cold, and from increasing sickness was somewhat broken on March 15, 1853, when the weakest half of the crew was told off in parties to make the spring retreat with sledges. To put them in condition for the field M'Clure gave them full rations. It was strange to note how closely they, eating once more heartily, were watched and to what extent the few ounces of extra food made them objects of envy to their healthier and stronger comrades, who were to stay by the ship another awful winter.

The doctors, however, were under no delusion as to the ultimate outcome of the situation. The weaker members of the crew were to take the field and die like men, falling in the traces as they dragged along the fatal sledge, as the surgeons Armstrong and Piers had reported in writing "the absolute unfitness of the men for the performance of this journey."

Though Captain M'Clure, with the spirit of optimism that belongs to a commander, endeavored to persuade himself to the contrary, it was evident to Dr. Armstrong that critical conditions had developed that threatened the extermination of the expeditionary force.

The able and clear-sighted doctor realized that the sick were not simply suffering from physical exhaustion induced by the short rations of many months. He recognized with horror that far the greater number of the crew were slowly perishing from the dreaded and fatal arctic scourge—scurvy. The progress and prevalence of the disease were such that it was to be

feared there would not remain after a few months enough well men to properly care for their sick comrades. It was a living death that was being faced from day to day.

But fate, inexorable and inexplicable, was doubly placing its veto on the feeble plans of man. Three of the men who were told off for the forlorn hope died within a fortnight, while thirty-three of the remaining thirty-six men were suffering from materially impaired health. Then came the relief from outside sources, which saved the expedition as a whole.

Meanwhile, unknown to M'Clure, a searching squadron of five British ships, commanded by Captain Sir Edward Belcher, R.N., was wintering about two hundred miles to the eastward of the *Investigator*. Sledging from one of these ships, the *Resolute*, at Bridgeport Inlet, Melville Island, Lieutenant Mecham, in October, 1852, had visited Winter Harbor, and on top of the famous sandstone rock had found the record there deposited by M'Clure in his visit to that point in April, 1852, six months earlier, which stated that the *Investigator* was wintering in Mercy Bay. The fast-approaching darkness made the trip to Mercy Bay impossible, even if the ship was yet there—most doubtful from the record. For M'Clure had added: "If we should not be again heard of . . . any attempt to succor would be to increase the evil."

Nevertheless, Captain Kellet, commanding the *Resolute*, thought it wise to send a party to Mercy Bay the coming spring, not for M'Clure alone, but to seek at

that place and far beyond such news as was attainable about Collinson's squadron. For this duty was selected Lieutenant Bedford C. T. Pim, R.N., a young officer of spirit and determination, who had volunteered for the journey. Kellet's advisers urged that he delay the departure until the end of March, with its longer days and warmer weather. Pim insisted on an early start, for it was a long journey. Collinson's squadron was provisioned only for that year and so would break out through the ice early from their more southerly ports. Providentially, Kellet listened to Pim's importunate pleas, as otherwise at least half of the crew of the *Investigator* would have perished.

On March 10, 1853, Pim started on this journey of nearly two hundred miles, the first long sledge trip ever attempted in an arctic expedition at such an early date —twenty-five days in advance of any other sledge journey from the *Resolute* that year. Pim with eight men hauled the man-sledge, while Dr. Domville with one man supported him with a dog-sledge of six animals. Eleven other men were to assist them for five days.

Things went badly from the very beginning, and Kellet was half inclined to recall Pim. Under frightful conditions of weather and of ice travel one man fell sick and two sledges broke down. Fearing that he would be kept back, Pim wisely stayed in the field, sending back for other men and sledges. The first night out was quite unendurable, the temperature falling to seventy-six degrees below the freezing-point. Then followed violent blizzards which storm-stayed the party for

four days, during which the temperature inside their double tent fell to fifty-six degrees below freezing. One comfort to the young lieutenant was the presence of a veteran polar seaman, Hoile, who had learned all the tricks and secrets of handling gear and stores in the field during his campaigns under the famous arctic sledgeman Sir Leopold McClintock. But no skill could make men comfortable under such awful cold. For instance, the fur sleeping bags at the start had been dry, pliant, and cold-proof. Now the vapor from the men's bodies had dampened the bags which, frozen solid, would stand on end without falling, as though made of light sheet-iron.

Marching onward, Pim's next trouble was with a food-cache, laid down by himself the previous autumn, which wild animals—probably bears and wolves—had plundered in large part, though some of the thick metal coverings of the solidly frozen meats had escaped with rough marks of the teeth and claws.

Pim took everything with jovial humor, and was entirely happy when he left the firm land of Melville Island to cross frozen Banks Strait to Mercy Bay, Banks Land. Bad as was travel along the ice-foot bordering the land, it was far worse in the strait. Domville officially reported that their course "was beset with every difficulty, every variety of hummocks and deep snow barring our progress in all directions. Some of the ridges, too irregular for a loaded sledge, required portages to be made, a mode of proceeding almost equally difficult and dangerous to the limbs, from the men sink-

ing to the middle through the soft snow amongst the masses of forced-up hummocks."

Later there came some level stretches, and then Pim hoisted a sail on the man-sledge to help it along. It nearly proved their ruin, for the sledge took charge on a steep, glassy hummock, knocked over the men, plunged into a deep crevasse, and broke a runner. Pim did not hesitate an hour over the best thing to do. Leaving Domville to patch up the sledge and to return and await him at the last depot, Pim started ahead with his six dogs and two men toward Mercy Bay. Sleepless nights of fearful cold, days of weary toil with sun-dazzled eyes, biting blasts of sharp blizzards, exhausting struggles through rubble ice—these one and all could neither quench the spirit nor bend the will of this forceful man. Ever faithful to the motto of his sledge flag, "Hope on: hope ever," he ceased not until the land was reached and success insured.

Skirting the ice-foot of the northeastern coast of Banks Land, his heart came into his mouth as, rounding a cape, he saw the dark spars of an ice-beset ship loom up against the sullen southern sky. Blistered and brazened, half snow-blinded, with face covered with accumulations of greasy soot, what wonder that this fur-clad figure was thought by the amazed M'Clure to be an Eskimo, a mistake aided by the wild gesticulations and loud, unintelligible shouts of a man whose face was as black as ebony.

Of Pim's coming Dr. Armstrong of the *Investigator* says: "No words could express the feelings of heart-

felt gladness which all experienced at this unlooked-for, this most providential arrival."

Over the rough, winding trails of the arctic highway, Pim had travelled four hundred and twenty-seven miles from ship to ship, and made a journey that will ever live in polar annals as fraught with vital interests beyond those of any other single sledge trip.

Of Pim's work a fellow-officer, McDougal, wrote: "Each member of our little community must have felt his heart glow to reflect that he formed one of the little band whose undertakings in the cause of humanity had been crowned with such success."

Thus it happened that through the heroic energy and persistent efforts of Bedford Pim, the outcome of the voyage of the *Investigator** was changed from that of certain disaster to one of astounding success. Save for this timely sledge journey, many of his sailor comrades must have found unknown graves among the ice-crowned isles of the northern seas, and an awful tragedy would have marked the splendid annals of the Franklin search.

* M'Clure abandoned the *Investigator* shortly after Pim's sledge journey, and crossing the ice with his men joined Belcher's squadron. M'Clure and his crew thus made the northwest passage and received therefor the reward of ten thousand pounds sterling. Captain J. E. Bernier, who wintered at Melville Island in the Canadian steamer *Arctic*, 1908–9, says of the *Investigator*: "M'Clure anchored his vessel . . . to be cast on a shoal, where, he said, she would last for ages. He was mistaken, as no sign was visible of the vessel when the officer of the *Arctic* visited Mercy Bay in 1908."

KANE'S RESCUE OF HIS FREEZING SHIPMATES

KANE'S RESCUE OF HIS FREEZING SHIPMATES

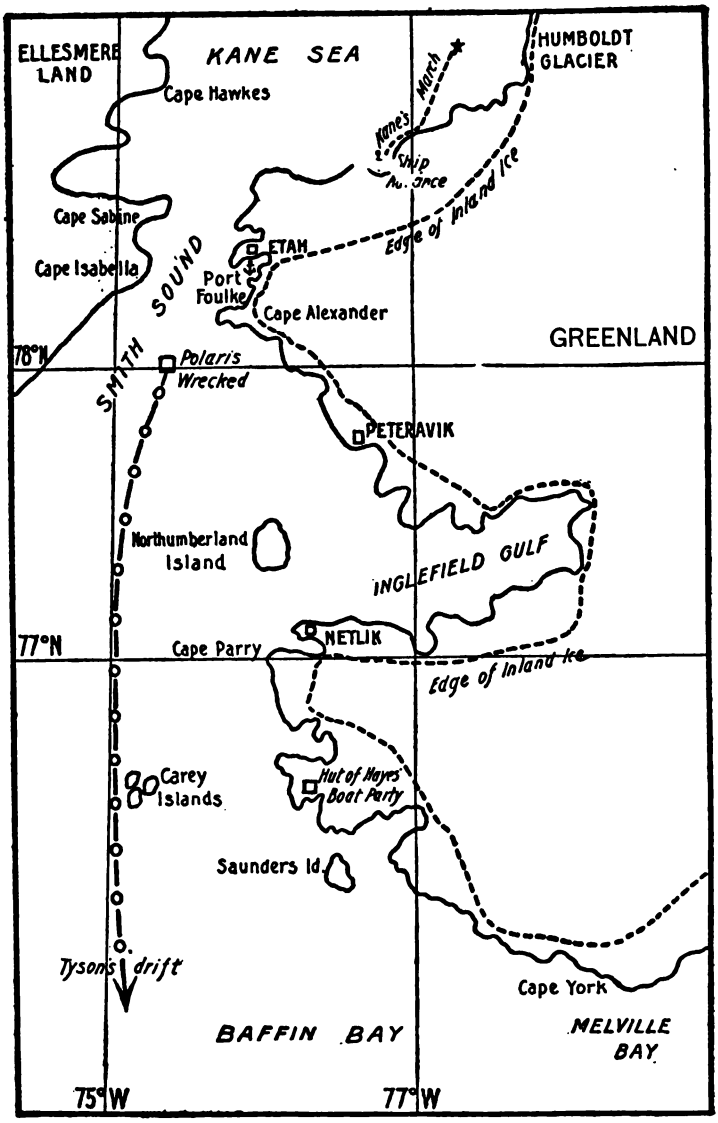
"Men in no particular approach so nearly to the gods as by giving safety to their fellow-men."—CICERO.

IN 1853 the United States co-operated a second time in the search for Sir John Franklin, and sent into Smith Sound an expedition fitted out through the liberality of Henry Grinnell and George Peabody. Doctor Elisha Kent Kane, United States Navy, commanded the expedition, and placed his brig *Advance* in winter quarters in Rensselaer Harbor, West Greenland, whence he planned by boats and sledges to "examine the coast lines for vestiges of the lost (Franklin's) party." This sketch relates particularly to Kane's personal and heroic endeavors to save from death one of his own field parties.

Among arctic explorers there is no more striking and interesting figure than that of Elisha Kent Kane, whose enthusiasm created and individuality dominated the search of 1853. Well-intended, his expedition was fallacious in plan, unsuitably equipped, inadequately supplied, and manned by inexperienced volunteers. It seemed doomed to utter and dismal failure, yet through the activities of the versatile leader its general results exceeded those of any other arctic expedition of his generation. With a literary charm and a

beauty of expression unexcelled by any other polar explorer, Kane revealed to the world the human relations and racial qualities of the Etah Eskimo, told of the plant and animal life of that desolate region, recorded the march of physical forces, and outlined the safe and practicable route whereby alone the north pole has been reached. But if his mind was imbued with a spirit of philosophy, and if his poetic vision saw first the beautiful, yet his sense of duty and strength of will inevitably involved his exposure to any and all privations that promised definite results.

The autumnal journeys of 1853 had led to nothing promising in the neighborhood of the *Advance*, so throughout the winter he was busy in preparing for the spring sledge trips in order to search the northern coast line for the lost explorers. Thus planning and laboring he definitely recognizes the unfavorable situation. "The death of my dogs, fifty-seven in all, the rugged obstacles of the ice, and the intense cold (the temperature had fallen to one hundred degrees below the freezing-point) have obliged me to reorganize our whole equipment. We have had to discard all our India-rubber fancy-work. Canvas shoemaking, fur-socking, sewing, carpentering are all going on. Pemmican cases are thawing, buffalo robes drying, camp equipments are in the corners." He adds: "The scurvy spots that mottled our faces made it plain that we were all unfit for arduous travel on foot at the intense temperatures of the nominal spring. *But I felt that our work was unfinished.*"



Smith Sound and West Greenland.

The very start of the party, on March 19, 1854, indicated clearly that two errors, frequent in arctic work, had been committed—overloading and too early a start in periods of extreme cold. Kane had himself noticed that in extreme cold, say fifty degrees below freezing, "the ice or snow covering offers great resistance to the sledge-runners. The dry snow in its finely divided state resembles sand, and the runners creak as they pass over it." In a temperature of seventy-one degrees below freezing "we packed the sledge and strapped on the boat to see how she would drag. Eight men were scarcely able to move her. . . . Difficulties of draught must not interfere with my parties." Erroneously attributing the trouble to the thin runners of his Eskimo sledge, he changed it for one with broad-gauged sledge-runners, and then added two hundred pounds of pemmican to the load.

The party started to the north in a temperature of seventy-five degrees below freezing, and even with extra men in the rue-raddies (canvas shoulder-belts for dragging the sledge) they were barely able to move the sledge forward over the smooth, level floes near the brig.

When the sledgemen came to rough ice they promptly dumped both boat and pemmican, realizing the impossibility of hauling them. Soon they came to high, uptilted ice-hummocks, separated by precipitous ice-chasms filled with drifting snow. It then became necessary to divide the load and so travel three times over the same road.

DR. KANE'S MEN HAULING THEIR BOAT OVER ROUGH ICE.

From a sketch by Dr. Kane.

Meanwhile they seemed to be advancing over a sea of desolation whereon were utterly lacking the signs of life—few enough even there along the shore. From the snow-covered floes were entirely absent the tiny traces of the snowy ptarmigan, the weaving, wandering trails of the arctic fox, and the sprawling foot-marks of the polar bear. Once, indeed, they saw a short distance seaward a blow-hole, where lately a seal had come for needful air, as shown by the thin glassy ice-covering, unbroken for days.

Suddenly the weather changed, the clear atmosphere giving way to a frosty fog, which shut out any distant views, and save for their compass bearings they did not know the direction of their march, nor indeed whether the frozen sea continued or that land, so desired, was near or far.

The coming of a northeast blizzard caused frightful sufferings to these inexperienced arctic sledgemen. Neither wind or snow proof, the tent was speedily filled with the drifting, sand-like snow, which saturated the sleeping-gear and nearly stopped the cooking. Travel in such weather would have been dangerous for strong, active men, but Baker was too sick even to walk, and so the days were passed in endeavors to keep themselves warm and bring about a state of comfort. Still they went on with courage the first fine day, though their progress was very slow, and there seemed to be no definite hope of reaching land where their depot of provisions could be cached.

A second blizzard ended the advance of the worn-

out, thoroughly discouraged men. When the weather cleared Brooks, the mate in charge, found further progress hopeless. "The hummocks in front consist of pieces of ice from one to two feet thick, having sharp edges and piled up from ten to fifteen feet high. Single piles sometimes exceeded thirty feet in height, and at a distance have the appearance of icebergs. We failed to perceive a single opening in their chain." His wise decision to return was all that saved any member of the party.

Of the conditions under which the men slept, Sonntag, who was one of the sledgemen, says: "The evaporation from the bodies of the sleepers became condensed on the blanket-bags and buffalo-skins, which acquired a lining of ice as soon as the men emerged from them in the morning, and when required for use at night these bedclothes were stiffly frozen. The labor of sledge-hauling was so excessive that, notwithstanding the severity of the cold, the men were often thrown into profuse perspiration, and this was soon followed by the clothes being frozen together so firmly that they were not thawed asunder until the men entered their sleeping-bags."

Inspired by the fact they that were homeward bound, the men worked with desperate energy, and camped only when they were ready to drop with exhaustion. The last part of the march was through deep snow, which sifted into every crevice of the men's garments, and, melting there from the heat of the body, saturated their clothing. The most essential rules for the safety of arctic sledgemen are the careful brushing of all snow

from the garments before entering the tent and the replacing of the always damp foot-gear with dry socks. Exhausted and unadvised, most of the men sought refuge from the fearful cold by crawling unbrushed into their frozen sleeping-bags, without even removing their boots let alone their socks. That day of the march had been one of awful cold, the average temperature being more than seventy degrees below freezing, and the imprudent sledgemen paid that night the exacting penalty of their rash ignorance. The following morning the situation was hopeless unless help could be had from the brig. The feet of four of the men were so badly frozen that they could not even walk, much less drag the sledge. It was impossible for the four well men to haul their four disabled shipmates to the *Advance*, thirty miles distant.

At the call for volunteers for the dangerous journey, which must be made in one march, all four of the well men responded, and astronomer Sonntag, with two Danes, Ohlsen and Petersen, made the journey. Irish Tommy, as the crew called Seaman Hickey, rebelled at first because he was not accepted, but his generous heart reconciled him to remaining when it was pointed out that his qualities as cook and as handy-man made him the best person to care for his crippled shipmates.

Kane tells the story of the rescue in language that cannot be improved. "We were at work cheerfully, sewing on moccasins by the blaze of our lamps, when, toward midnight, we heard steps and the next minute

Sonntag, Ohlsen, and Petersen came into the cabin, swollen, haggard, and hardly able to speak. They had left their companions in the ice, risking their own lives to bring us the news. Brooks, Baker, Wilson, and Pierre were all lying frozen and disabled. Where? They could not tell—somewhere in and among the hummocks to the north and east; it was drifting heavily around them when they parted."

With impaired health, in feeble strength, ignoring the protests of his officers against such exposure, the heroic Kane waited not a moment, but decided to take the field and risk his life, if necessary, to rescue his crippled shipmates.

Kane continues: "Rigging out the *Little Willie* sledge with a buffalo cover, a small tent, and a package of pemmican, Ohlsen (who seemed to have his faculties rather more at command than his associates) was strapped on in a fur bag, his legs wrapped in dog-skins and eider-down, and we were off. Our party consisted of myself and nine others. We carried only the clothes on our backs. The thermometer stood at seventy-eight degrees below the freezing-point. . . .

"It was not until we had travelled sixteen hours that we began to lose our way. Our lost companions were somewhere in the area before us, within a radius of forty miles. For fifty hours without sleep, Ohlsen fell asleep as soon as we began to move, and now awoke with unequivocal signs of mental disturbance. He had lost the bearings of the icebergs. I gave orders to abandon the sledge and disperse in search of foot-marks. We

raised our tent, gave each man a small allowance of pemmican to carry on his person, and poor Ohlsen, just able to keep his legs, was liberated.

"The thermometer had fallen to eighty-one degrees below freezing, with the wind setting in sharply from the northwest. It was out of the question to halt; it required brisk exercise to keep us from freezing. I could not even melt ice for water, and any resort to snow for allaying thirst was followed by bloody lips and tongue; it burnt like caustic.

"We moved on looking for traces as we went. When the men were ordered to spread themselves, to multiply the chances, they kept closing up continually. The strange manner in which we were affected I attribute as much to shattered nerves as to the cold. McGary and Bonsall, who had stood out our severest marches, were seized with trembling fits and short breath. In spite of all my efforts to keep up an example of sound bearing, I fainted twice on the snow.

"We had been out eighteen hours when Hans, our Eskimo hunter, thought he saw a broad sledge-track which the drift had nearly effaced. We were some of us doubtful at first whether it was not one of those accidental rifts which the gales make in the surface snow. But as we traced it on to the deep snow among the hummocks we were led to footsteps. Following these with religious care, we at last came in sight of a small American flag fluttering from a hummock, and lower down a little masonic banner hanging from a tent-pole hardly above the drift. It was the camp of our disabled com-

rades; we reached it after an unbroken march of twenty-one hours.

"The little tent was nearly covered with snow. I was not among the first to come up; but when I reached the tent-curtain the men were standing in single file on each side of it. With more kindness and delicacy of feeling than is often supposed to belong to sailors, but which is almost characteristic, they intimated their wish that I should go in alone, and I crawled in. Coming upon the darkness, as I heard before me the burst of welcome gladness that came from the four poor fellows stretched on their backs, and then for the first time the cheer outside, my weakness and my gratitude together almost overcame me. *They had expected me! They were sure that I would come!*

"We were now fifteen souls; the thermometer seventy-five degrees below the freezing-point. Our sole accommodation was a tent barely able to hold eight persons; more than half of our party were obliged to keep from freezing by walking outside while the others slept."

For the return journey: "The sick, with their limbs sewed up carefully in reindeer-skins, were placed upon the bed of buffalo-robes, in a half-reclining posture; other skins and blankets were thrown above them, and the whole litter was lashed together so as to allow but a single opening opposite the mouth for breathing. This necessary work cost us a great deal of effort, but it was essential to the lives of the sufferers. After repeating a short prayer we set out on our retreat."

The journey homeward was made under conditions

ELISHA KENT KANE.

of almost insuperable difficulty and distress in which lack of sleep played a greater part than either cold or physical labor, severe as they both were. As the energy of the sledgemen failed the tent of the field party was pitched, and McGary left with orders to move forward after a sleep of four hours.

Not sparing himself, Kane went on with one man and reached the half-way tent, to melt ice and pemmican, in time to save its destruction by a predatory polar bear. He says: "The tent was uninjured though the bear had overturned it, tossing the buffalo-robes and pemmican into the snow. All we recollect is that we had great difficulty in raising the tent. We crept into our reindeer-bags without speaking, and for the next three hours slept on in a dreamy but intense slumber. When I awoke my long beard was a mass of ice, frozen fast to the buffalo-skin; Godfrey had to cut me out with his jack-knife."

A few hours later the crippled party rejoined Kane and after refreshment went on toward the ship. Fortunately the weather was fine and the cold less severe. Yet, says Kane, "Our halts multiplied, and we fell, half-sleeping, in the snow. Strange to say, it refreshed us. I ventured on the experiment, making Riley wake me at the end of three minutes. I felt so much benefited that I timed the men in the same way. They sat on the runners of the sledge, fell asleep instantly, and were forced to wakefulness when their three minutes were out."

In an utterly exhausted, half-delirious condition,

they were met a few miles from the brig by a dog-sledge bringing restoratives. Of the outcome of the sledge journey out and back Kane says: "Ohlsen suffered some time from strabismus and blindness; two others underwent amputation of parts of the foot without unpleasant consequences; and two died in spite of all our efforts.

"The rescue party had been out for seventy-two hours. We had halted in all eight hours, half of our number sleeping at a time. We travelled between eighty and ninety miles, most of the way dragging a heavy sledge. The mean temperature of the whole time was seventy-three degrees below freezing, including the warmest hours of the three days. We had no water except at our two halts, and were at no time able to intermit vigorous exercise without freezing."

Such remarkable and successful efforts to rescue their suffering shipmates cannot fail to excite the admiration of all, if merely as an astonishing instance of man's physical endurance. Yet on the whole such feelings are subordinate in the hearts of most men to a sense of reverence for the spirit that animated Kane and his fellows to sacrifice their personal comfort and venture their lives for the relief and safety of their disabled comrades.

HOW WOON WON PROMOTION

HOW WOON WON PROMOTION

"Poor, reckless, rude, low-born, untaught,
A heart with English instinct fraught,
He only knows that *not through him*
Shall England come to shame."

—DOYLE.

THIS tale recites one of the many stirring experiences of the crew of her majesty's ship *Investigator*, which, after having been frozen fast in the ice-floes of Mercy Bay, Banks Land, for two years, was abandoned, June 3, 1853. Owing to lack of provisions, the men, living on two-thirds rations for twenty months, were obliged to keep the field for hunting purposes so as to avoid death by starvation. The incidents herein related occurred in connection with the chase.

The sun had been entirely absent for ninety-four days, and the coldest period of the winter was at hand. Even at the warmest moment of the midwinter month, February, the temperature had barely risen to zero. At times the mercury froze solid, and the cold was so intense that even the ship herself seemed to suffer as much as the half-starved, ill-clad men. The metal bolts and rivets glared at one with their ice-covered ends, while the wooden tree-nails, timbers, and doors cracked continually under the twin action of frost

and contraction. And so since the New Year's coming the crew had shielded themselves as best they could from the utter darkness of the land and the frightful cold of the air. Even when it was possible hunting was unfruitful of results; the deer had migrated to the pastures of the milder south, while the hares and small game had huddled in crannies and nooks for shelter against the wind.

But now a few hours of feeble twilight, steadily increasing in duration and in brightness, were marked by broad bands of life-giving light at mid-day in the southern sky. Though the longer days were those of sharper cold, yet hunger and want early drove the hunters from the ship. As soon as there was enough glimmering light to make it possible, the keen-eyed sportsmen started inland to find and follow the trails of such animals as might yet be in the country. At the same time they were charged to take the utmost care to make sharp note of prominent landmarks by which they could safely take up their return march to the *Investigator*.

The spring hunt may be said to have fairly opened ten days before the return of the long-absent sun, when a wretchedly gaunt reindeer was killed on January 28, 1852. For days individual deer had been seen, evidently returned from the south, where their winter life must have been a constant struggle against starvation, judging from the slain animal. While the deer of the previous autumn were always in good flesh, there was in this case not a bit of fat on any rib. A collec-

tion of mere skin and bones, this deer weighed less than ninety pounds, about the same as a large wolf or draught-dog.

This early success stimulated to action the hungry hunters, who thenceforth let no day pass without ranging the distant hills for sign of deer or musk-ox, anxious for the hunter's perquisites—the longed-for head and heart of the game.

On February 9 the day broke calm, clear, and unusually bright; especially attractive because of an hour of sunlight, the sun having come above the horizon at midday four days earlier. Every man who could get permission was enticed into the field, and great was the furore when one party brought in a small deer, giving promise of more from the hunters still in the open. With the passing hours one man after another reached the ship, while the slowly vanishing twilight became fainter and fainter. When the darkness of night had come and the officer of the deck had checked off the hunters, he reported to the captain that two men were yet absent—Sergeant John Woon and Seaman Charles Anderson, both excellent men, active-bodied and distinguished as hunters.

Woon was the non-commissioned officer in charge of the detachment of royal marines, whose standing and popularity were almost as high with the seamen as with his own corps. Dr. Armstrong says of him: "He proved himself invaluable, was always a ready volunteer, most correct and soldier-like in conduct, ever contributed to the hilarity and cheerfulness of the crew, and

was brave and intrepid on every occasion, which fully tested the man."

Whether on shipboard or on land, Woon never failed to do a lion's share of the work in hand, and was always the first to cheer and help a tired comrade. An indefatigable and successful hunter, he was familiar with the white wolves that so menaced the safety of individuals. On one occasion, going for a deer shot that day, he killed at a distance of a hundred yards a gaunt wolf who was greedily devouring the precious carcass. This monster wolf, with a thick coat of pure, unstained white, weighed eighty pounds, was three feet four inches high and five feet ten inches in length.

It was Sergeant Woon also who had distinguished himself in killing, under thrilling circumstances, two infuriated and charging musk-oxen, as elsewhere related in the sketch, "Pim's Timely Sledge Journey." Altogether he was a man quite able to care for himself, though not coming to the ship with such a reputation for woodcraft, hunting skill, and physical activity as had Seaman Anderson.

Able Seaman Charles Anderson was a man of powerful build and great muscular strength, who had made himself a leader among the seamen by his success in athletic sports, in which he easily excelled any other man on the ship. A Canadian by birth, his color and his personality disclosed in his veins deep strains of Indian or other alien blood. Inured to the hardships and labors of a hunter's life in the Hudson Bay territory, where he claimed to have been an employee, he

displayed in his social relations the mercurial and attractive qualities which distinguish the French half-breeds, the famous *coureurs de bois*.

At the evening meal there was more or less chaffing between the marines and the seamen as to where were Woon and Anderson and what success they were having in the field. With a trace of that special pride of corps which goes so far to make the various arms of the military services so efficient, the seamen said that it was a pity that the absent men were not together so that Woon's safety might be better assured by the skill and strength of his friend Anderson. To these jests the royal marines answered, as was their wont, in kind, enlarging ludicrously by side remarks and flings on the reputed helplessness of sailors on land, especially on *deer-back*.

At eight o'clock that night affairs took a different turn, when it was known that M'Clure and the other officers felt serious alarm over the continued absence of two hunters who were said to be in the field apart. The fog had given place to a bright sky, with feeble light and rapidly falling temperature, so that disaster to one or both was thought to be probable. The presence and boldness of the prowling bands of ravenous wolves in the immediate neighborhood of the ship was viewed as one of the greatest dangers to a single disabled man.

To show the location of the ship and to guide the absentees to it in the darkness of the night, a mortar was first fired to attract the notice of the hunters, and

then every ten or fifteen minutes a rocket was sent up, but with the closest attention no one could detect any sound that at all resembled a human voice. Nothing could be heard save now and then the ominous howling of wolves, doleful sounds to the anxious crew.

After two disquieting hours of signals by mortar and rockets, with no responsive answers from the hunters, Captain M'Clure sent out three search-parties, each headed by an officer. Arranging a code of signals, both for recall to and for assistance from the ship, they set forth on an agreed plan in different directions, each party provided with rockets, blue light, food, wraps, and stimulants. In less than a quarter of an hour one of the searching-parties met Sergeant Woon coming to the ship for help. Summoning another squad to join them, they hastened under the direction of Sergeant Woon to the relief of Anderson, who was perishing of cold in a snow-drift a scant mile distant.

It appears that Anderson, discovering a herd of deer, had pursued and wounded one of them, which fled inland away from the ship. Following fast after the wounded animal, without noting the winding direction of the trail, he at length not only lost the tracks of the deer but also found that the country was being covered by a light fog. Climbing the nearest hill-top, he was panic-stricken to find himself unable to note either the face of the bright southern sky, the hunters' usual method of finding their bearings, or to see any landmark that was at all familiar. He hurried from hill-top to hill-top, exhausting his strength, confusing his mind,

and destroying his faith in his ability to find his homeward way. In utter despair he sat down in the snow and gave himself up for lost.

Most fortunately Sergeant Woon had seen no game, and chancing to cross the trail of Anderson and of the escaping deer, he decided to follow it up and help the sailor bring in his game. With extreme astonishment he found Anderson in a state of utter helplessness, already benumbed and certain soon to perish either from wolves or by freezing. Cold, fear, and fatigue had caused the seaman to lose not alone his power of action and of decision, but had almost deprived him of the faculty of speech. He was in such a demoralized condition—half-delirious, frightened, fatigued, and frosted—that he could not at first fully realize that his comrade had come to his assistance and that his ultimate safety was quite assured.

His utter prostration was only known when Woon asked him to get up and go home, to which he feebly moaned out, "I am lost," and did not rise even when the sergeant curtly said: "Get up like a man and you are all right." Some time passed before either words of cheer or sharp words of order and abuse had any effect. His patience worn out at last, Woon seized him roughly, dragged him to his feet, gave him a shove shipward, and started him on the home trail, but in a few minutes the bewildered seaman fell down in the deep snow through which he was walking. Not only was his strength worn out to exhaustion, but to the intense horror of Woon he was no sooner put on his feet than

he fell down in a convulsive fit, while blood gushed freely from his mouth and nostrils.

The appalling conditions would have shaken any man less courageous than this heroic sergeant. They were many miles from the *Investigator*, the weather was turning cold with the vanishing fog, and the feeble twilight —it was now about two o'clock in the afternoon—was giving way to coming darkness. If he went to the ship for aid, Anderson would surely perish before it could be obtained. In the hours of travel to and fro the seaman would either freeze solidly or meet a horrible alternative fate from the not-far-distant wolves, whose dismal howlings already seemed a funeral dirge to their helpless prey.

The audacity and strength of these starving, ravenous animals had been a constant source of anxiety and alarm to all the hunters. Especially had the forecastle talk run on one gigantic brute, standing nearly four feet high at the shoulder, leaving a foot-print as big as that of a reindeer, who was thought to be the recognized leader of a marauding band from whose ravages no slaughtered game was free.

If the seaman could not be left, neither could he be carried, for Anderson was one of the largest and heaviest men of the crew, while the marine was one of the smallest and lightest. At last the thought came to Woon that he could drag the seaman in to the ship. Not daring, for fear of the wolves, to quit his gun, he slung both muskets across his shoulders, and clasping Anderson's arms around his neck started to drag him in this manner

through miles of snow to the ship. Such a task was of the most herculean and exhausting character. The only relief that he had was when the trail brought him to the top of a hill or the edge of a ravine. Stopping and laying Anderson on the snow, he rolled him down the hillside to the bottom, in this way giving himself a rest and at the same time stirring the dormant blood and breaking the lethargic sleep of the steadily freezing seaman. In fact this rough treatment was the saving of Anderson, as a fresh wind had sprung up with the temperature fifty-seven degrees below the freezing-point.

For ten long hours this heroic sergeant struggled on, while the situation seemed more and more critical. The seaman was growing stupider, while his own strength was decreasing from hour to hour, although his courage was unfailing despite cold, darkness, and snow. At length, when within a mile of the ship, he felt that he could not drag his man a step farther. While resting and planning what next to do, he saw a rocket shoot up, leaving its train of welcome blazing light. Pointing to it, he called on Anderson to stand up and walk on as he was now safe. Again and again he uttered such words of cheer, with alternate threats and orders, but alas! without avail. The seaman only asked in feeble voice "to be left alone to die," having reached that benumbed state so dangerous to a freezing man.

Seeing that he could get him no farther, Woon laid him down in a drift of snow, covered him with such of his own clothing as he felt he could spare, and throwing quite a thick coating of snow over him, so as in a meas-

ure to protect him from the awful cold, went ahead for aid, which most happily proved to be near at hand.

The precautions that the sergeant had taken on leaving the man saved his life, as a half-hour's longer exposure to the extreme cold would have proved fatal. As it was, Anderson was brought to the ship insensible, with his heart scarcely beating, with clinched, frozen hands, rigid limbs, glassy eyes, and hard-set jaws. He lost parts of both feet, of both hands, and of his nose by amputation, but with his robust constitution recovered his general health and returned safely to England.

The courage and devotion of Woon was recognized by his promotion to be color-sergeant, the highest grade to which Captain M'Clure could advance him. Welcome as was this increase of rank to Woon, it stood second in his mind to a sense of the high honor and deeper regard with which he was ever after held by the men of the ship. All felt that to his strength of will, powers of endurance, and heroic spirit of comradeship was due the life of the ship's favorite, first from death by exhaustion and exposure and then from a more horrible fate at the ravenous jaws of the greatly feared wolves.

In after time when, in the midst of a heated argument as to service matters, some exultant marine would refer to the story of the big seaman and the little sergeant, with a modesty equal to his courage and creditable to his spirit of comradeship Color-Sergeant Woon would at once interrupt the speaker and change the subject of conversation.

Nor is Woon's heroism an especially unusual episode in the thrilling history of arctic service. In countless and too-often unrecorded cases not only the officers, but especially also the rank and file, have practically and gloriously illustrated by personal heroism those splendid qualities of uplifted humanity—fortitude, loyalty, patience, best of all, solidarity and the spirit of self-sacrifice. These unheralded and humble heroes have at the call of duty, as circumstances required, done their part each in his own way. Among these the name of Color-Sergeant Woon stands high, simply because his rising to a noble occasion is a matter of written record.

We know not his later career in war or in peace, but we feel sure that as color-sergeant he lived up to the ideal of an American private when, as others of his caste, for the honor and safety of a nation—

> "He shows in a nameless skirmish
> How the color-guard can die."

THE ANGEKOK KALUTUNAH AND THE STARVING WHITES

THE ANGEKOK KALUTUNAH AND THE STARVING WHITES

"Every one hears the voice of humanity, under whatever clime he may be born, through whose breast flows the gushing stream of life, pure and unrestrained."—GOETHE.

AS elsewhere noted, Dr. Elisha Kent Kane, United States Navy, in the brig *Advance*, while in search of Sir John Franklin, was forced into winter quarters at Van Rensselaer Harbor, Greenland, in the Autumn of 1853. As the harbor ice did not break up the following summer, the question arose in August, 1854, as to the proper line of action to be taken in order to preserve the lives of the crew. The stock of fuel was practically exhausted, the provisions were so depleted in quantity and restricted in quality as to threaten starvation, while in the matter of health Kane describes the crew as "a set of scurvy-riddled, broken-down men." He believed, nevertheless, and events proved that his judgment was sound and practicable, that the safety of the party would be best insured by remaining in the brig during the winter, saying: "In spite of the uncertainty, a host of expedients are to be resorted to and much Robinson-Crusoe work ahead. Moss was to be gathered for eking out our winter fuel; willow-stems, sorrel, and stone-crops collected as anti-scorbutics and buried in the snow."

The Danish interpreter, Petersen, strongly urged the abandonment of the ship and an attempt to reach by boats the Danish colony at Upernavik, thus crossing Baffin Bay. Though his ice experiences were only as a subordinate with Penny's arctic expedition, his opinion caused a separation of the party.

With his unfailing quality of courtesy Kane accorded free action to each individual. He called all hands "and explained to them frankly the considerations that have determined me to remain. I advised them strenuously to forego the project, and told them I should freely give my permission to those desirous of making the attempt." Eight decided to remain and nine to make the attempt, among whom were Dr. Hayes and Petersen. The main incidents of their unsuccessful journey and their relations with the Etah Eskimo, whose material aid saved their lives, form the principal parts of this narrative.*

The boat party, under command of the Dane, J. C. Petersen, started August 28, 1854, provided with all that they could carry in the way of food, arms, ammunition, clothing, camp and boat gear. "I gave them [says Kane] their portion of our resources justly, and even liberally. They carried with them a written assurance of a brother's welcome should they be driven back; and this assurance was redeemed when hard trials had prepared them to share again our fortunes."

It required eight days of heavy and unremitting

* See map, page 95.

labor to get the boats and stores to open water, a start so discouraging that one man deserted the party and returned to the *Advance*. The ice conditions were most adverse from the very beginning, entailing sufferings and hazards from day to day. Among their experiences were besetment in the open pack, separation of boat and cargo during portages, some of the men adrift on detached floes, and stormy weather that kept them once for thirty hours without either warm food or drinking water. With courage, even if judgment was wanting, they pushed on and improved matters by obtaining food and another boat from the cache made at Littleton Island by Kane the preceding year. A gale nearly swamped them in rounding Cape Alexander, south of which they were forced to shore by the insetting ice-pack. Ice and weather were too much for them, and they eventually landed in Whale Sound, twenty miles north of Cape Parry. They had come to the end, a hundred miles from Kane—scarcely an eighth of their proposed voyage completed.

Here they were most hospitably received at an Eskimo encampment and had their first view of native life in its own environment. The principal man of the band was swarthy-faced Kalutunah, the Angekok, or medicine-man, of the wandering bands that travel to and fro along the narrow, ice-free land between Cape York and Etah. He was one of the Etahs who had visited the *Advance* the preceding winter and so recognized them as friends. In a spirit of hospitality the Angekok invited the voyagers to his encampment,

where a feast of walrus blubber and meat would be given them. It appeared, however, that the natives as a body did not relish the inroads to be made on their scanty supply of food, and one old woman especially inveighed against the feast. In the end the dark-skinned Kalutunah, enforcing his authority and asserting his dignity as the Angekok of the tribe, tersely and firmly said: "The white man shall have blubber!" which ended the discussion.

Hayes records: "Our savage friends were kind and generous. They anticipated every wish. Young women filled our kettles with water. Kalutunah's wife brought us a steak of seal and a dainty piece of liver. The hunt had latterly been unproductive, and they had not in the whole settlement food for three days. The supply of blubber obtained was sufficient to fill our keg. We distributed to them a few small pieces of wood, a dozen needles, and a couple of knives. We could not obtain any food, for the poor creatures had none either to give or to barter."

The architectural skill of these, the most northerly people of the world, was not without interest to Hayes. "I found the huts to be in shape much like an old-fashioned clay oven, square in front and sloping back into the hill. The whole interior was about ten feet in diameter and five and a half feet high. The walls were made of stones, moss, and of the bones of whale, narwhal, and other animals. They were not arched, but drawn in gradually and capped by long slabs of slate-stone stretching from side to side. The floor was

THE INTERIOR OF AN ETAH ESKIMO IGLOO.

From a sketch by Dr. Kane.

covered with flat stones, and the rear half of it was elevated a foot. This elevation, called a *breck*, served both as bed and seat, being covered with dry grass over which were spread the skins of bears and dogs. Under a small corner *breck* lay a litter of pups* and under another was stowed a joint of meat. Above the passageway opened a window, a square sheet of dried intestines, neatly sewed together. The entrance hole, close to the front wall, was covered with a piece of seal-skin. The walls were lined with seal or fox skins stretched to dry. In the cracks between the stones of the walls were thrust whip-stocks and bone pegs on which hung coils of harpoon-lines. The lamps were made of soapstone and in shape much resembled a clam-shell, being about eight inches in diameter. The cavity was filled with oil and on the straight edge a flame was burning brilliantly. The wick which supplied fuel to the flame was of moss. Above the flame hung, suspended from the roof, an oblong, nearly square, cooking-pot made of soapstone. Over this was a rack, made of bear rib-bones lashed together crosswise, on which were placed to dry stockings, mittens, trousers, and other articles of clothing. There were three lamps, and centring around its own particular lamp were three families, one represented by three generations."

Petersen's party went into winter quarters sixteen miles south of Cape Parry, where their equipment was

* In order to raise the puppies and save them from the devouring jaws of the ravenous, starving dogs, litters are kept in the huts, or elsewhere in a protected place, until they are large enough to run about and seek their mother's aid when attacked.

landed, the boats hauled up, and their tents pitched. As the men suffered frightfully in the thin tents, a hut was built in a crevice of a neighboring cliff. With the well-known resourcefulness of the American sailor, they put up quite a comfortable shelter roofed with the sails of the boat. A canvas-covered wooden frame served as a door, and an old muslin shirt greased with seal blubber admitted a feeble light through the hole called a window.

Three weeks had now passed since the party had left Kalutunah, and the attempt to live on the resources of the country had utterly failed, the only game killed by the hunter Petersen being eighteen ptarmigan (arctic grouse). With food for a week only, "to appease the gnawing pains of hunger we resorted to the expedient of eating the rock-lichen, which our party called stone-moss. Black externally with a white interior, it is an inch in diameter and the thickness of a wafer. When boiled it makes a glutinous and slightly nutritious fluid. Poor as was this plant, it at least filled the stomach and kept off the horrid sensation of hunger until we got to sleep."

By the middle of October the situation was impossible, with the cold forty degrees below the freezing-point, their bedding damp, the stone-moss disagreeing with some, and one man sick. They talked of a desperate foot journey to seek aid at Netlik, the native encampment forty miles to the north, but food and strength seemed equally lacking. Even if made, would the journey be profitable? Hayes had already noted

that the Eskimos "were poor beyond description. Nature seems to have supplied them with nothing but life, and they appear to have wrested from the animal world everything which they possessed. Clothed wholly in skins, with weapons fashioned of bone, they subsisted exclusively on animal food. [He adds:] There seems no hope for us save in stone-moss."

During an awful blizzard, when hopes were feeblest, two native hunters burst into the hut equally to the astonishment and relief of the boat party. Hayes says: "Invested from head to foot in a coating of ice and snow, shapeless lumps of whiteness, they reminded me of my boy-made snow kings. Their long, heavy fox-skin coats, surmounted by head-hoods, their bear-skin trousers, their seal-skin boots and mittens were saturated with snow. Their hair, eyelashes, and few chin hairs were sparkling with white frost. Each carried in his right hand a whip and in his left a lump of frozen meat and blubber. Throwing the meat on the floor, they stripped off their outer garments and hung them on the rafters. Underneath their frosty garments they wore a shirt of bird-skins. One of these newcomers was the Angekok, the sturdy, good-natured, and voluble Kalutunah. Soon we were rejoicing in a good substantial meal at the expense of our guests."

The next morning when the Inuits were leaving the starving sledge dogs attacked Hayes, who says: "An instant more and I should have been torn to pieces. I had faced death before, but never had I felt as then; my blood fairly curdled in my veins. Death down the

red throats of a pack of wolfish dogs was something peculiarly unpleasant. . . . The poor animals, howling piteously, had been tied separately for thirty-six hours and were savagely hungry. Every line or piece of skin or article of food was out of their reach. One, however, had already eaten the trace by which he was tied."

Of the critical situation Hayes writes: "We had thirty-six biscuits and three pints of bread-dust. Each man had a biscuit a day, a quantity insufficient for our need. The hunt having failed utterly to supply us, we must get our food of the natives or not at all. Accordingly we made with the Angekok a treaty by which his people are to furnish as much food as we might want, and we are to supply them with wood, iron, knives, and needles at rates to be subsequently fixed upon."

It was a fortnight before the Inuits again appeared, and meanwhile the whale-boat was broken up for fuel. All of the party had become frightfully weak and three men were sick. Hayes piteously says: "What *shall we* do? Will the Eskimos never come? I never go out without expecting to find a corpse when I return."

At last, after two weeks, the natives returned, coming from a hunt with the greater part of three bears. While the starving men "were fattening on the juicy bear's meat they left us," yet there was a key-note of fear in the statement that the natives "were very chary of the meat, as we obtained only enough to suffice us for a few days." Their gratitude for trifles and the willingness of the natives to give their last bit of food was

shown a few days later by a young Eskimo. "He had nothing on his sledge but two small pieces of blubber, four birds, about a pound of bear meat, a bear-skin, and a small lamp. All these he laid at our feet."

Temporarily saved from death by starvation through food from the natives, the whites planned for the future. There was much wild talk about wintering at Cape York, of hiring the natives to take them across the unknown ice of Baffin Bay to Upernavik. Finally it was agreed that life depended on their obtaining supplies from or by their return to Kane and the *Advance*—either of these alternatives a difficult as well as a bitter resort. The distance along the ice-foot of the winding coast was estimated to be about three hundred miles, and it was hard to admit that their departure from the brig against the wishes and advice of their commander had been a serious mistake. At least they would try their friend Kalutunah on their various schemes before admitting their error.

The Angekok came with food, as usual, and at the same time there was a new visitor, a widow with a load of frozen birds—the little auks killed the summer before and stored for winter consumption. She declined to eat the walrus and held fast to her own food. It appeared at last that she was a patient of the medicine-man, Kalutunah, whose power over his comrades lay in his virtues as a sorcerer. Hayes says: "The widow greatly interested me. She ate birds for conscience' sake. Her husband's soul had passed into the body of a walrus as a temporary habitation, and Angekok Kalu-

tunah had prescribed that for a certain period she should not eat the flesh of this animal. As bear and seal were scarce, she was compelled to fall back on birds. This penance [he adds] was of a kind which every Eskimo undergoes upon the death of a near relation. The Angekok announces to the mourners into what animal the soul of the departed has passed, and henceforth, until the spirit has shifted its quarters, they are not to partake of the flesh of that animal."

The party, cheered by the food brought by Kalutunah, broached to him their wishes. He listened gladly to the tales of the delight and charms of Upernavik sung by Petersen, but declined to attempt the ice journey across Baffin Bay, which was known to him only as a great, ice-filled ocean wherein had perished many of his tribe, as had lately the husband of the bird-eating widow. Neither would he sell his dogs, without whom he could neither travel nor hunt. To their surprise he consented to take one of the party north to the *Advance*. The commander of the boat-party, Petersen, decided to make the journey, and with him a seaman, Godfrey, was unwisely allowed to go, and the sledge was also accompanied to the native settlement at Netlik by two other men. The Netlik visit resulted in feasts for the men who stopped there, but Petersen and Godfrey turned back a few days later to the boat camp. They said that they were in fear of their lives from an Eskimo, Sip-su, with whom they had trouble. Hayes records the despair of the party at this situation, saying: "We are at the end of our plans and in two days more shall be

at the end of our provisions. We are destitute—helpless. What *shall* we do?"

The day that food failed he rejoices thus: "Again the Eskimos appear to us more as our good angels than as our enemies. Kalutunah and another hunter came to us to-day and threw at our feet a large piece of walrus beef and a piece of liver." Doubtless through the friendly influence of the Angekok other hunters came to the starving whites from time to time with meat—even the dreaded bully, Sip-su—receiving in payment bits of wood or of iron.

It was none the less clear that the party, unable to hunt itself, could not hope to live through the winter on meat from the natives who at times were themselves on the verge of starvation. It was decided to obtain a sledge and dogs wherewith to make the journey back to the brig.

To build a sledge Hayes examined those of the Inuits of which he says: "It was the most ingeniously contrived specimen of the mechanic art that I have ever seen, made wholly of bone and leather. The runners, square behind and rounded upward in front, about five feet long, were slabs of bone; not solid, but composed of pieces of various shapes and sizes cunningly fitted and tightly lashed together. Near their margins were rows of little holes, through which were run strings of sealskin, by which the blocks were fastened together, making a slab almost as firm as a board. These bones were flattened and ground—a work of months for a single runner—into the required shape with stones.

"The runners were shod with ivory from the tusk of the walrus, ground flat and its corners squared with stones; it was fastened to the runner by a seal-skin string which was looped through two counter-sunk holes. This sole, though composed of a number of pieces, was uniform and as smooth as glass.

"The runners, fourteen inches apart, were fastened together by bones tightly lashed. These cross-bars were the femur of the bear, the antlers of the reindeer, and the ribs of the narwhal. Two walrus ribs were lashed, one to the after-end of each runner, for up-standers, and were braced by a piece of reindeer antler secured across the top."

Quite hopeless of building anything that should be as good as this, they succeeded in making an indifferent sled from the remains of their boats, which had been broken up and largely used for fuel. Four dogs were bought, but a single day's journey showed how impossible it was to hope to reach Kane with such a wretched field outfit. They must resort to the natives, and especially to Kalutunah the Angekok.

After endless efforts the boat party succeeded in obtaining dog teams sufficient to enable them to make the return journey to the *Advance*. As Petersen had gone ahead with one man, it left Hayes to conduct to the ship the other men, one being too sick to travel. It was a journey full of suffering from the extreme cold, of danger especially in rounding the precipitous cliffs of Cape Alexander, where the strong sea current from the north and the tides from the south cause danger

spots that often bring death to the midwinter sledgemen.

Of their treatment while travelling up the coast one instance is given by Hayes: "We received all manner of kind attentions from our hosts. The women pulled off our boots, mittens, coats, and stockings and hung them up to dry. My beard was frozen fast to the fur of my coat, and it was the warm hand of Kalutunah's wife that thawed away the ice. Meats of different kinds were brought in and offered to us."

Of the passage around the cape Hayes records: "For the space of several feet the ice-foot was not more than fifteen inches wide, and sloping. A halt was called and men and dogs crouched behind the rocks for shelter. The furious wind, still lashing the waves against the frozen shore at our feet, whirled great sheets of snow down upon us from the overhanging cliffs. We could not face the pitiless storm at our backs, and to go forward seemed impossible. Discarding my mittens and clinging with my bare hands to the crevices in the rock, I moved cautiously along the sloping shelf. Below the breaking surf yawned to receive any victim who made an inadvertent step. I shall not soon forget the joy and thankfulness with which I found myself upon the broad ice-belt at the farther side of this dangerous place. The dogs were driven forward by their native masters and, seized by the collars, were dragged around the point. The sledges were pushed along the shelf and turned on one runner and held until the dogs could stretch their traces and, bounding forward, at the word whirled

them around in safety before they could topple over the precipice."

Finally Van Rensselaer Harbor was reached, and the returning wanderers, blinded, frost-bitten, and exhausted, staggered on to the deck of the *Advance*. With his generous heart their old commander Kane received them with open arms and brotherly greetings.

One cannot but class as astounding these human experiences, which marked the first extended relations between the men of Etah and the adventurous explorers who had come from the outside world. In this instance there had been brought face to face the hitherto unknown men of the stone age and the representatives of the high and vaunted civilization that aims to uplift and to dominate all the nations of the earth.

On the one hand were the Etahs, who were actual children of the stone age—clothed in skins, without wood or metal, having neither houses nor boats, using stone utensils in their rude huts of skin or of rock, and living solely by the hunt. Following the chase with weapons of bone, through untold hardships they wrested, day by day, precarious food from their home environment—a habitat on one of the most desolate reaches of the arctic coasts. Their struggles for mere existence under these harsh conditions of uncertainty were such as—either among the men of the stone age or in the imperial cities of to-day—engender intense selfishness and lead to deadly contests in order to save the strong at the expense of the weak.

On the other hand were the men of the civilized world,

provided with boats, furnished with selected food, especially equipped for polar service, and armed with the best weapons. Engaged in the mission of relieving the men of Franklin's missing squadron, with their superior knowledge and their trained minds, they were supposed to be able not only to be self-reliant and self-sustaining, but also to extend aid to the needy.

Through the irony of fickle fortune the civilized men had found themselves unable to maintain life by the chase of the land and sea game of the region. In dire distress, with failing food, they faced certain death unless aid should come from outside sources.

To the savage and famine-threatened men of Etah the appalling condition of their alien visitors was clearly evident. Moreover, if the helpless white men were simply left to themselves they must soon perish, leaving for the Inuits untold wealth of hitherto unknown treasures,—of iron and wood, of cloth and cordage, of robes and of weapons.

In this fearful crisis, amid arctic cold and in polar darkness, savage humanity rose to heroic heights. Selfishness and covetousness stood abashed among these children of the stone age, and in their stead were awakened holy feelings of human pity and a spirit of self-denying charity.

Their deeds show that in the white north as in the sunny south there abide the true spirit of brotherly love and a recognized sense of human interdependence. After the Etah manner, there recurred the episode of the Samaritan charity of ancient Judea. Yet the ac-

tion of the Inuit even surpassed the deed of the good man of Palestine, for Etah aid was not the outcome of a rich man's loving generosity to a penniless sufferer, but it also paralleled the widow's mite, for Kalutunah, the savage sorcerer, and his tribesmen gave the sole food of to-morrow for their wives and children to save from death the rich and alien white men of the unknown south. Does heroism rise to nobler deeds in the midst of our superior civilization and higher development?

DR. RAE AND THE FRANKLIN MYSTERY

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"An age which passes over in silence the merits of the heroic deserves as a punishment that it should not bring forth such an one in its midst."—FORSTER.

IN 1845 Captain John Franklin, royal navy, in command of the ships *Erebus* and *Terror*, sailed with one hundred and twenty-nine souls to make the northwest passage. His orders carried him via Lancaster Sound and Cape Walker, and he was provisioned for three years. The ships were last seen by civilized men in Baffin Bay, whence they passed from the knowledge of the world. In 1847 great anxiety prevailed as to the fate of the expedition, and fears of its loss grew stronger from year to year. More than a score of ships, with crews of nearly two thousand men, at an expense of millions of dollars vainly sought, between 1847 and 1853, news of the missing squadron, and the British Parliament offered a reward of ten thousand pounds sterling for the first accredited information regarding the lost explorers.

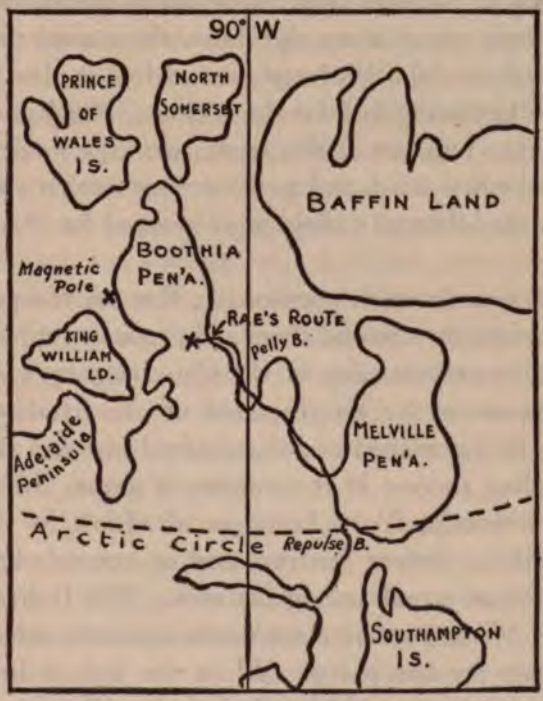
The Franklin mystery was solved through the labors of Dr. John Rae, a Scotch surgeon in the employ of the Hudson Bay Company, whose marvellous endurance and restless energy are evident from the statement that in his various journeys of exploration he walked more than twenty thousand miles. The con-

ditions under which Rae gained information as to the fate of Franklin are herein set forth.

Twice before had Rae been engaged in the Franklin search, in 1848–50 with Sir John Richardson, and later under the auspices of the Hudson Bay Company. In these combined journeys of five thousand three hundred and eighty miles he had explored much of Wollaston and Victoria Lands, from Fort Confidence as a base. The doctor then found at Parker Bay the butt of a flag-staff, which from its tack and line, bearing the special mark of the royal navy, had evidently belonged to one of Franklin's ships. Now, in 1853, he was in command of a Hudson Bay Company's party to complete the exploration of Boothia Peninsula.

Leaving Chesterfield Inlet by boat, Rae was en route to Repulse Bay, his intended head-quarters, when he fell in with a herd of walruses, from which, in spite of his terrified crew, who feared these sea-monsters, he obtained an enormous animal that furnished enough blubber for his cooking-lamps throughout the winter. That Rae's walrus hunt was not without danger was evident from the experiences of four Eskimos off this very coast on Rae's previous visit. The natives lashed together their four kayaks, and while in pursuit of walruses were attacked by a ferocious male. Striking down the first kayak with his enormous tusks, the infuriated animal ploughed through the miniature fleet, capsizing and breaking up the four tiny crafts and drowning the unfortunate hunters.

It was the middle of August when Rae pitched his tents on the barren shores of Repulse Bay, where the outlook for food and comfort were not promising—the



Boothia and Melville Peninsulas.

shore being free from Eskimo hunters, whose absence indicated that the migratory game was pasturing inland that year. Summer was rapidly passing, yet thick masses of old ice clung to the shore and immense drifts of snow still filled the ravines.

The party had food and fuel for three months only,

while the work in hand meant a stay of nine months. The doctor began to collect supplies systematically, and knew how to work to the best advantage as he had once wintered at Repulse Bay. One party spread fish-nets at the best places along the shore, the second took the field for deer and other large game, while the last busied itself in gathering fuel for the winter. Rae had earlier found that bunches of the arctic saxifrage made excellent fuel when dried, and as there were neither trees nor shrubs the hills and valleys were scoured for this useful plant.

With true Scottish pertinacity, Rae set the pace for his men and then outdid them all in turn. Supplementing the mental training of the Caucasian by extended experiences in the hunting-field of the Hudson Bay region, he astonished and discomfited his men through astounding success in the pursuit of game. In knowledge of woodcraft, in keenness of vision, in keeping the trail, in patient waiting, and in hunter's wiles he was without equal among his men. The Indian deer-hunter, Mistegan, had come north especially selected to kill game for the party. When the Indian kept the field for ten hours and brought in a deer, Rae kept it for twelve hours and killed two or three animals. Pushed by his white rival, Mistegan did his best and shot twenty-one deer in six weeks, while Rae had to his credit forty-nine head—the whole party of eight killing only one hundred and nine.

To the amazement of all, after a long absence roaming over the far-distant hills to the west, Rae brought

word that he had slain a musk-ox—the sole wanderer that year from the herds of the barren grounds to the southwest.

The weather became bitter cold, with the temperature down to zero, and sea-fishing then failed. Rae turned his efforts to the newly frozen lakes, where the hooks and nets, skilfully set, yielded two or three salmon or lake trout daily—no mean addition to their larder for men who were living on the game of the country.

October was a dismal period with its shortening days, its gloomy skies, and high winds, which with zero temperatures blew piercingly through the wretchedly thin tents. Life in daylight was only endurable when men were on the trail or hunt. But now the wise old monarchs of the herds were turning their heads southward in their annual migration, and only twenty-five deer were killed during the month.

However, the bitter wind did good and needful work, for in time it packed into marble-like drifts the autumnal snows. This gave work for native snow-knife and deft hands, which soon erected two large snow houses, on the southerly side of Beacon Hill, where they were well sheltered from the prevailing northwesterly gales.

With Indian inclinations to idleness, some of the men looked forward eagerly to the completion of the snow houses. They were viewed as comfortable places for the long winter, where the cheerful pipe, with tales of the trail and ample food, should make content the trapper's heart and body. Rae had no such notion, for he had lived too long with natives and with half-breeds not

to know that daily work was needful not only for the health, but even more for the morale and efficiency of his men.

Finding that the fish-nets of the lake were much cut up by a small, shrimp-like water insect, the favorite food of the salmon, he transferred them to the rapids of North Pole River, which kept open nearly all winter. Some of the men made the six-mile tramp across the rough country to daily drag the nets, while the rest kept the field where an occasional fox, wolf, partridge, or wolverine rewarded their efforts.

After a time there was much grumbling at days of fruitless hunting. Rae was equal to the occasion, and he set the discontented hunters at work scraping under the snow for saxifrage, their sole supply of fuel. To complaints he tersely said: "No saxifrage, no tea." Only men familiar with the white north know what a deprivation it would have been to these half-breeds to give up the hot tea, which they daily look forward to with intense longing and drink with deep satisfaction.

With midwinter past and the sun returned, Rae welcomed with relief the first sign of the far-distant but longed-for arctic spring. Of course, with lengthening days came strengthening cold, and there were weeks during which the mercury was frozen—the true arctic days of no wind, of bright skies, and of beautiful colors in air and on ice.

One day the youngest of the Indians burst into the snow house, crying out in great terror that the clouds were on fire. While the older men rushed out instantly,

the phlegmatic Scot followed at leisure. It proved to be an offshoot of one of the brilliant sun-dogs which so wondrously beautify the arctic heavens, especially in the early spring or late winter. These sun-dogs, or mock-suns, arise from refraction and reflection of the solar rays of light from the ice particles that are suspended in the air, and are usually at twenty-two or forty-five degrees distant from the sun itself.

On this occasion the sun-dogs had formed behind a thin, transparent cirrus cloud which greatly extended the area of the sun-dog besides adding very greatly to its already vivid colors. Rae tells us that "three fringes of pink and green followed the outlines of the cloud." The alarm and mistake of the young novice in sun-dogs and solar halos were sources of gibes and fun among his chaffing comrades for many days.

Rae now began his preparations for field work. A snow hut was put up for the use of the carpenter, who was soon busy overhauling the sledge gear. The Hudson Bay sledges were carefully taken apart, scraped, polished, reduced in weight as far as was safe, and then put together with the utmost care so that the chance of a break-down in the field should be reduced to a minimum. The trade articles for use with the Eskimos were gone over and so arranged as to give the greatest variety for use in the field with the least weight. Everything was to be hauled by man-power and the weights must be as small as possible. Beads, files, knives, thimbles, fish-hooks, needles, and chisels were thought to be the best suited to native needs and tastes.

Meanwhile, Rae was disturbed that no signs of Eskimos had been found in their local field journeys. He feared that their absence might mean that there had been a change of route on the part of the reindeer in their migratory paths, for in that region no game meant no inhabitants. Several efforts to locate natives near the fishing-points were made without success. The doctor then put into the field two of his best men, Thomas Mistegan, the deer-hunter, "a trusty, pushing fellow," as we are told, and William Ouglibuck, the Eskimo interpreter of the party. Their journey of several days to Ross Bay showed that the country was bare of natives, but here and there were seen a number of deer migrating to the north, and of these a few were shot. This journey was most disappointing in its results for Rae had hoped to find Eskimos from whom he could buy a few dogs for sledge work.

Rae did not spare himself, for starting in bitterly cold weather he laid down an advance depot which was hauled on Hudson Bay sledges a distance of one hundred and seventy miles. At Cape Pelly stores were cached under large stones, secure, as he said, from any animal except man or bear. Long experience had made him familiar with the enormous strength and destructive powers of the polar bear. Dr. Kane, it will be recalled, tells of the utter ruin of one of his best-built cairns, which he thought to be animal-proof. Yet the bears tore it down and scattered its heaviest packages in all directions.

The long and final trip to the north began on the

last day of March, the four sledgemen hauling each a heavily laden sledge. The field ration was almost entirely pemmican, two pounds per day, with a few biscuit and the indispensable tea. The trip began with misfortunes, one man proving so weak in the traces that Rae had to replace him by the Cree Indian, Mistegan, an experienced sledge-hauler of unusual activity.

The route lay overland almost directly north, to Pelly Bay across a broken, desolate country. Violent blizzards and knee-deep snow made travel painful enough, but under Rae's exacting leadership the hardships became extreme. Each sledge with its load approached two hundred pounds, an awful drag, which could be made only by men of iron frame and great endurance, especially when making some twenty miles per day—Rae's standard of travel. The day's march ended, then came the tedious labor of building a snow igloo, wherein at least they were able to sleep with warmth and comfort. While hut-building was in progress the doctor faithfully made sextant observations for latitude or longitude, determined the local variation of the compass, and observed the temperature—in short, did more than any other man of the party.

Day after day they marched on over a land of desolation and abandonment. Neither bird nor man nor beast was to be seen, despite the keen eyes of the Cree hunter, of whom Rae commendingly remarked: "Custom had caused him to notice indications and marks which would have escaped the observation of a person less acute and experienced." In this single

particular, of picking up and following a trail, was the remarkable Scottish leader surpassed by any of his Indian hunters or Canadian trappers.

Nearly three weeks of monotonous, heart-breaking travel had thus passed, and they reached the shores of Pelly Bay. Scouring the country near the camp as usual, the trail-hunting Cree, Mistegan, threw up his hands with the welcome message of things seen, which brought Rae to his side. There, clear to the Indian but almost illegible to any other, a few faint scratches on the surface of the ice told that days before there had passed a dog-drawn sledge.

Making camp, Rae began work on his observations, at the same time setting two men at gathering saxifrage for fuel, and putting on the sledge trail Eskimo Ouglibuck and fleet-footed Mistegan. That night Rae was happy to see flying across the bay ice several dog-sledges with triumphant Mistegan in the lead.

There were seventeen Inuit hunters, twelve men and five women. Although several of them had met Rae at Repulse Bay in 1846–7, the greater number were pushing and troublesome, having a certain contempt for men of pale faces who were so poor that they were without even a single dog and had to haul their sledges themselves. After some talk they were ready to sell the seal meat with which their sledges were loaded, but would not, despite liberal promises of needles, agree to hire out their dogs to go westward across land, as Rae desired them to do in order that he might survey the west coast—his sole object on this journey. Although Rae

spoke of the delights of chasing musk-oxen, they preferred their seal-hunting grounds which they had just visited with success.

Rae tells us of a favorite method of seal-hunting followed by these Eskimos in which many of the native women are very expert. On bright days the seals, crawling from their air-holes, delight to bask in the sun and indulge in little cat-naps or siestas. Dozing a half-minute, the seal awakes with alarm, and after quickly looking in all directions falls asleep, with constant repetitions of naps and starts. When a seal is thus engaged the hunter, clad in seal-skin garments, endeavors to make his way between the seal and the air-hole, a process demanding endless patience and involving much fatigue. The hunter lies either on his face or side, and makes his advances while the animal dozes or is looking elsewhere. If obliged to move while the seal is awake, the native makes his advances by a series of awkward motions like those of a seal making its way over the ice. A skilful hunter sometimes gets within a few feet of the animal without arousing its fears, and an on-looker would at a distance be unable to say which figure was the seal and which the man. Seals are unusually curious, and at times one comes forward with friendly air to meet its supposed fellow. When in the desired position the hunter springs up and, running to the air-hole, attacks the animal as he tries to escape. Seals are thus captured even without a spear or other weapon, a blow on the nose from a club killing them.

The active and numerous body of Eskimo visitors were too meddlesome for Scotch patience, and Rae finally sent them away, not, however, before they had stolen, as it was later learned, a few pounds of biscuit and a large lump of fuel-grease.

Rae was now almost directly to the east of the magnetic north pole, the north-seeking end of his compass pointing eight degrees to the *south* of due *west*. Breaking camp, he turned toward the magnetic pole. Having a heavy load, he decided to cache his surplus supplies until his return, but did not dare to do so near the Eskimos. The cache was made on a rocky hill several miles inland, and it took some time to make it secure from animals and free from observation by travellers. The cache made, Rae was astonished and angry to find that the Eskimo interpreter, Ouglibuck, was gone. Rae never thought of desertion, but keen-eyed Mistegan caught sight of the Inuit fleeing to the eastward toward the camp of his native cousins. As the speediest of the party, the doctor and the Cree started after him, taking that slow dog-trot with which the Indian runners cover so much ground untiringly. It was a sharp run of five miles before the deserter was overtaken.

Rae says: "Ouglibuck was in a great fright when we came up with him, and was crying like a child, but expressed his readiness to return, and pleaded sickness as an excuse."

The doctor thought it best to diplomatically accept the statement that the deserter was sick, but none the

less he deemed it wise to decrease the load hauled by the Eskimo, doing so at the expense of the half-breeds. But it was quite clear that Ouglibuck was more than willing to exchange his conditions of hard field work with scant food for the abundant seal meat and the social company of his own people, which had proved so enjoyable during his brief visit to their igloos.

This prompt action of Rae's tided over the critical phase of the expedition, and the temporary delay indirectly brought about the meeting with other natives, from whom came the first news of the missing explorers. Immediately after renewing his western journey, Rae met a native who had killed a musk-ox and was returning home with his dog-sledge laden with meat. Ouglibuck made his best efforts to reinstate himself in the good graces of Rae by persuading the Inuit stranger to make a journey of two days to the westward, thus lightening the loads of the other sledges. Another Eskimo then joined Rae, anxious to see the white men of whom he had heard from the visitors of the day previous.

The doctor asked his usual question, as a matter of form, as to the Eskimo having seen before any white men or any ships, to which he answered in the negative. On further questioning he said that he had heard of a party of *kabloonans* (white men), who had died of starvation a long distance to the west.

Realizing the full importance of this startling and unexpected information, Dr. Rae followed up this clew with the utmost energy, both through visits to and

by questionings of all Eskimos he could find. He also extended his field efforts, during which cairns were searched and the adjoining region travelled over as far as Beecher River, about 69° N. 92° W. His original work of surveying was now made incidental to a search for Franklin!

Nor must it be thought that these journeys were made without considerable danger and much physical suffering. A half-breed, through neglect of Rae's orders regarding changes of damp foot-gear at night, froze two toes. With a courage almost heroic, this Indian labored to redeem himself by travelling along and by doing all his work for several weeks until he could scarcely stand. Imbued with the importance of his new mission, Rae allowed nothing to stand in his way of adding to his precious knowledge and to the possible chance of tracing the wanderings of the lost explorers. He left the lame man with another half-breed to care for him and to cook the food spared for them. The shiftless character of Rae's men was shown by the fact that the well man not only did not shoot anything but did not even gather saxifrage for fuel, but used scarce and precious grease food for cooking.

Yet the fortitude and pride of the cripple was displayed in the return journey, with the outer joint of his great toe sloughed off, thus making it most painful to walk; as Rae remarks, "He had too much spirit to allow himself to be hauled."

Rae's collected information was as follows:

In 1850 Eskimo families killing seals near King Will-

BEECHEY ISLAND—FRANKLIN'S FIRST WINTER QUARTERS.

Drawn by J. Hamilton, after a sketch by Dr. E. K. Kane.

iam Land saw about forty white men travelling southward along the west shore, dragging a boat and sledges. By signs the natives learned that their ships had been crushed and that they were going to find deer to shoot. All were hauling on the sledge except one officer. They looked thin and bought a seal from the natives. Late that year the natives found the corpses of about thirty-five men near Montreal Island and Point Ogle, part in tents and others under a boat. None of the Eskimos questioned by Rae had seen the explorers either living or dead. They learned of these matters from other natives, from whom they had obtained by barter many relics of various kinds.

Rae succeeded in purchasing about sixty articles from the Eskimos. The most important, which left no doubt of their having come from Franklin's squadron, were twenty-one pieces of silver for the table, which were marked with five different crests and with the initials of seven officers of the expedition, including Sir John Franklin.

The natives thought that some of the explorers lived until the coming of wild fowl, in May, 1850, as shots were heard and fish bones with feathers of geese were later seen near the last encampment.

Although Rae had completed his survey only in part, he wisely decided that he had, as he records, "A higher duty to attend to, that duty being to communicate with as little loss of time as possible the melancholy tidings which I had heard, and thereby save the risk of more valuable lives being jeopardized in a fruitless search in

a direction where there was not the slightest prospect of obtaining any information."

As may be imagined, Rae's definite reports stirred deeply the hearts and minds of the civilized world, which for seven long years had vainly striven to rend the veil of mystery that surrounded the fate of Franklin and his men.

The silver and other articles brought back by Dr. Rae were placed in the Painted Hall of Greenwich Hospital, among the many historic relics of the royal navy. Even to-day these relics attract the attention and excite the admiration of countless visitors. And well they may, not alone as memorials of the deeds in peace of the naval heroes of England, but also as evidences of the modest courage, the stanch endurance, and heroic efforts of a Scotch doctor, John Rae, through whose arduous labors they were placed in this temple of fame.

SONNTAG'S FATAL SLEDGE JOURNEY

SONNTAG'S FATAL SLEDGE JOURNEY

"Death cut him down before his prime,
At manhood's open portal."

—POMEROY.

THE remarkable series of physical observations of Kane's expedition, the most valuable scientific contribution of any single arctic party in that generation, was almost entirely due to the scientific training and personal devotion of his astronomer, August Sonntag. While the nature of his duties lay in the observatory, his adventurous spirit sought field service whenever practicable. As shown in "Kane's Rescue of His Freezing Shipmates," Sonntag's prudence kept him from freezing in that terrible winter sledging, while his energy in the long journey for aid contributed to the final rescue of the disabled party.

When Dr. I. I. Hayes outfitted his expedition of 1860 in the *United States*, the glamour of the arctic seas was still on Sonntag, who for service therewith resigned his fine position as associate director of the Dudley Observatory at Albany. Of his expeditionary force Hayes wrote that he "lacked men. My only well-instructed associate was Mr. Sonntag."

Sailing as astronomer and as second in command, Sonntag met his fate with the expedition on the ice-foot of the West Greenland coast. His dangerous jour-

ney was made for reasons vital to the success of the expedition. The incidents of the sledge trip are briefly supplemented by such references to his previous field experiences as show the physical fitness and heroic quality of the man.*

The schooner *United States* was in winter quarters at Port Foulke, near Littleton Island. Without steam-power, the ship had not only been unable to pass to the northward of Cape Sabine, but her unavoidable conflicts with the polar pack had sadly damaged her. Conscious that his ship was so near a wreck as to be unable to renew her voyage toward the north the next summer, Hayes found himself obliged to undertake his polar explorations with dogs over a long line of ice-floes.

Tests of dogs became the order of the day, and Hayes's delight was great when, driving his own team —twelve strong, selected animals with no load—twelve miles in sixty-one minutes, he beat Sonntag by four minutes.

Although knowing the danger of such a journey, Sonntag arranged to climb Brother John's Glacier (named by Kane for his brother) to determine its seaward march. The approach was through a deep canyon. "This gorge is interrupted in places by immense bowlders which have fallen from the overhanging cliffs, or by equally large masses of ice which have broken from the glacier. Sometimes the ice, moving bodily forward, had pushed the rocks up the hill-side in a

* See map on page 95.

confused wave. After travelling two miles along the gorge Sonntag made the ascent, Alpine fashion, with which he was familiar, by steps cut with a hatchet in solid ice."

The deep, irregular crevasses common to most glaciers were bridged by crust formations of the recent autumnal snows. These bridges were so uniform with the general surface of the glacier as to make their detection almost impossible. Although Sonntag moved with great caution and continually tested the snow with his ice-chisel, which replaced the Alpine alpenstock, he broke through one bridge. Most fortunately the fall was at a place where the fissure was only about three feet wide, opening either way into a broad crevasse. Still more fortunately he did not fall entirely into the chasm, but as he pitched forward he instinctively extended his left hand, in which he was carrying a mercurial barometer three feet long, which caught on two points of the glacier and thus barely saved his life. *

But Sonntag's ardent wish was for a bear hunt which occurred during an unsuccessful attempt to revisit Rensselaer Harbor by dog-sledge, when a bear and cub were killed.

Hayes says: "Sonntag has given me a lively description of the chase. As soon as the dogs discovered the trail they dashed off utterly regardless of the safety of

* Comparative measurements showed that the centre of Brother John Glacier moved one hundred feet annually. Rink states that the centre of the great Jacobshavn Glacier moves twenty metres a day, or about four and a half miles annually.

the people on the sledges. Jensen's sledge nearly capsized, and Sonntag rolled off in the snow, but he was fortunate enough to catch the upstander and with its aid to regain his seat. The delay in the hummocks gave the bears a start and made it probable that they would reach the open sea. Maddened by the detention and the prospect of the prey escaping them, the bloodthirsty pack swept across the snowy plain like a whirlwind. The dogs manifested the impatience of hounds in view of a fox, with ten times their savageness. To Sonntag they seemed like so many wolves closing upon a wounded buffalo.

"The old bear was kept back by the young one, which she was unwilling to abandon. The poor beast was in agony and her cries were piteous. The little one jogged on, frightened and anxious, retarding the progress of the mother who would not abandon it. Fear and maternal affection alternately governed her. One moment she would rush forward toward the open water, intent only upon her own safety; then she would wheel around and push on the struggling cub with her snout and again coaxingly encourage it to greater speed.

"Within fifty yards of the struggling animals the hunters, leaning forward, slipped the knot which bound the traces together in one fastening, and the dogs, freed from the sledges, bounded fiercely for their prey. The old bear heard the rush of her enemies and squared herself to meet the assault. The little one ran frightened around her and then crouched for shelter between her legs.

"The old and experienced leader, Oo-si-so-ak, led the attack. Queen Ar-ka-dik was close beside him, and twenty other wolfish beasts followed. Only one dog faced her, and he, young, with more courage than discretion, rushed at her throat and in a moment was crushed by her huge paw. Oo-si-so-ak came in upon her flank, Ar-ka-dik tore at her haunch, and other dogs followed this prudent example. She turned upon Oo-si-so-ak and drove him from his hold, but in this act the cub was uncovered. Quick as lightning Karsuk flew at its neck and a slender yellow mongrel followed after. The little bear prepared to do battle. Karsuk missed his grip and the mongrel tangled among the legs of the cub was soon doubled up with a blow in the side and escaped yowling. Oo-si-so-ak was hard pressed, but his powerful rival came to his relief with his followers upon the opposite flank, which concentrated onslaught turned the bear in the direction of the cub in time to save it, for it was now being pulled down by Karsuk and his pack.

"Disregarding her own tormentors, she threw herself upon the assailants of the cub, and to avoid her blows they quickly abandoned their hold, which enabled her to once more draw under her the plucky little creature, weakened with loss of blood and exhausted with the fight. The dogs, beaten off from the cub, now concentrated on the mother, and the battle became more fierce than ever. The snow was covered with blood. A crimson stream poured from the old bear's mouth and another trickled over the white hair of her shoulder, from

shots fired by Hans and Jensen. The little one was torn and bleeding. One dog was crushed almost lifeless, and another marked with many a red stain the spot where he was soothing his agony with piteous cries.

"Sonntag now came up, but their united volley, while weakening her, was not sufficient to prevent her from again scattering the dogs and sheltering her offspring, which then sank expiring. Seeing it fall, she for a moment forgot the dogs, and licking its face tried to coax it to rise. Now, apparently conscious that the cub no longer needed her protection, she turned upon her tormentors with redoubled fury, and flung another dog to join the luckless mongrel.

"For the first time she seemed to know that she was beset with other enemies than dogs, when, his rifle missing fire, Hans advanced with an Eskimo spear to a hand-to-hand encounter. Seeing him approach, the infuriated monster cleared away the dogs with a vigorous dash and charged him. He threw his weapon at the animal and turned in flight. The bear bounded after him, and in an instant more neither speed nor dogs could have saved him. Fortunately Sonntag and Jensen had by this time reloaded their rifles, and with well-directed shots rolled her over on the blood-stained snow."

In early December a great misfortune befell the expedition through an epidemic disease attacking the dogs. "The serious nature of this disaster [says Hayes] will be apparent when it is remembered that my plans

of operations for the spring were mainly based upon dogs as a means of transportation across the ice. Unless I shall be able to supply the loss, all of my plans would be abortive." The first dog attacked, Karsuk of the bear-fight, was the best draught animal of the best team. Of the effect of the malady he adds: "I have never seen such expression of ferocity and mad strength exhibited by any living creature as he manifested two hours after the first symptoms were observed. I had him caught and placed in a large box, but this aggravated rather than soothed the violence of the symptoms. He tore the boards with indescribable fierceness, ripping off splinter after splinter, when I ordered him to be shot." About the middle of December there remained only nine dogs out of the original pack of thirty-six.

It occurred both to Hayes and to Sonntag that the best method of replacing their lost animals was to open communication with the Eskimos of Whale Sound. If they could induce several native families, through offers of stores and food, to come north to Foulke Harbor, they would bring along their dog teams which would thus be available for the sledge journeys of the coming spring.

There were supposed to be several Inuit families living on the south side of Whale Sound, which was distant a midwinter sledge journey of at least one hundred and fifty miles. Hayes says: "That we should communicate with these people at the earliest practicable moment was a matter of the first importance. When the moon came it was arranged that Sonntag should

make the journey, taking a single sledge and Hans as a driver."

Sonntag and Hans started with a team of nine dogs on the day of the arctic midnight, December 21, when the sun had reached its greatest southern declension. Hayes writes on the 22d: "Sonntag set out yesterday to reach the Eskimos. We had talked the matter over from day to day, and saw clearly it was the only thing to do. It was evident that if we waited for daylight they would be beyond our reach."

Five weeks later came the news of Sonntag's death, which is told by Hans in his "Memoirs":*

"In winter, just before Christmas, the astronomer [Sonntag] and I undertook a journey by sledge to look for natives. We crossed the great glacier [at Cape Alexander] and travelled the whole day without meeting with any people. A strong wind sprang up from the north and caused a thick drifting of snow, while we made our snow hut and went to sleep. On wakening the next day it still blew a gale and the snow drifting dreadfully, for which reason we resolved to return. While we proceeded homeward the ice began to break up, so we were forced to go ashore and continue our drive over the beach ice [ice-foot]. We arrived at a small firth and crossed it, but on trying to proceed by land on the other side it proved impassable and we were

* "Memoirs of Hans Hendrik" was written by Hans in Eskimo twenty-eight years after Sonntag's death. This little-known volume, translated by Dr. Henry Rink, gives, among other interesting matter about the expeditions of Kane, Hayes, Hall, and Nares, the account of Sonntag's death, which is substantially the same as that recorded in Hayes's "Open Polar Sea."

obliged to return to the ice again. On descending here my companion fell through the ice which was nothing but a thick sheet of snow and water. I stooped [from the high ice-foot evidently] but was unable to seize him, it being very low tide. As a last resort I remembered a strap hanging on the sledge-poles; this I threw to him, and when he had tied it around his body I pulled, but found it very difficult. At length I succeeded in drawing him up, but he was at the point of freezing to death, and now in the storm and drifting snow he took off his clothes and slipped into the sleeping-bag, whereupon I placed him on the sledge and repaired to our last resting-place.

"Our road being very rough, I cried from despair for want of help; but I reached the snow hut and brought him inside. I was, however, unable to kindle a fire and was myself overpowered with cold. My companion grew still worse, although placed in the bear-skin bag, but with nothing else than his shirt. By and by his breathing grew scarcer, and I, too, began to feel extremely cold on account of now standing still after having perspired with exertion. During the whole night my friend still breathed, but he drew his breath at long intervals and toward morning only very rarely. When finally I was at the point of freezing to death, I shut up the entrance with snow, and as the breaking up of the ice had rendered any near road to the ship impracticable, and the gale continued violently, I set out for the south in search of men, although I had a wide sea to cross."

After finding two deserted huts he threw himself down in despair, awaiting his death. He continues: "When here I lay prostrate I uttered sighing, *They say some one on high watches over me too. Have mercy on me, and save me if possible, though I am a great sinner. My dear wife and child are in such a pitiful state—may I first be able to bring them to the land of the baptized.**

"I also pronounced the following prayer:

> "'Jesu, lead me by the hand
> While I am here below,
> Forsake me not.
> If Thou dost not abide with me, I shall fall,
> But near to Thee I am safe.'

Thereafter I arose and set off again. . . . I discovered the light of a window. . . . These folks [Etah Inuits] were very kind and hospitable. When I entered the house and began to take off my clothes the fox-skin of my jacket was as soft and moist as if newly flayed. My outer bear-skin trousers were not so very wet. When I took off my hare-skin gaiters they stuck to my stockings from being frozen together, and I could not get them off but by cutting open the boots. Had I used seal-skin gaiters I think that I should have frozen to death. Here I stayed many days, being unable to return alone."

Sonntag's body was recovered in the early spring, the hut in which he died being found to be completely

* Hans Hendrik was of West Greenland where all the natives are baptized. His wife, Mertuk, was one of the so-called heathen natives of the Cape York region. See "The Wifely Heroism of Mertuk, the Daughter of Shung-hu."

covered with drifted snow, and he was buried on the desolate shores of Port Foulke.

In an unpublished journal his shipmate Dodge writes: "Not yet in the prime of life, but already enjoying a well-earned reputation which gray-haired men might envy, with prospects of honor and usefulness before him, he was endowed with abilities to achieve success in the highest walks of science. Peace to his remains and all honor to his memory. For among the gallant and the gifted men who have fallen victims to their zeal for scientific research in the arctic regions, there has been none braver or worthier than August Sonntag."

Thus perished one of nature's gentlemen, wedded to the universe through his devotion to astronomy and yet alive to the winning aspects of terrestrial grandeurs. Unsparing of self where the lives or comfort of his comrades were in question, in unobtrusive ways he contributed to their happiness and shared cheerfully the common burden of daily duties. Such manly qualities, simple though they seem, made heroic the life and death of August Sonntag.

THE HEROIC DEVOTION OF LADY JANE FRANKLIN

THE HEROIC DEVOTION OF LADY JANE FRANKLIN

"So many saints and saviors,
So many high behaviors."
—EMERSON.

IN "The Discovery of the Northwest Passage" and in "Pim's Timely Sledge Journey" there have been sketched various heroic phases connected with the last voyage of Sir John Franklin and the expeditions of the Franklin search. In the search there were employed thirty-three ships and nearly two thousand officers and men, whose utmost endeavors during a period of eight years, and at an expense of many millions of dollars, had failed to obtain any definite information as to the fate of the missing explorers. One clew had come from private sources, as shown in the tale of "Dr. Rae and the Franklin Mystery."

This present narrative sets forth the work accomplished through the devotion of the widow of Sir John Franklin, in a so-called hopeless enterprise. Sacrificing her ease and her private fortune to a sense of duty, not alone to her husband but also to those who served under him, her labors eventually wrested from the desolate isles of the northern seas the definite secret of the fate of the expedition as a whole.

After his abandonment in 1853 of four expeditionary ships of the Franklin search, Sir Edward Belcher re-

turned to England, ending what he termed "The Last of Arctic Voyages," in which opinion the British Government concurred. Lady Jane Franklin did not accept this decision as final. On April 12, 1856, in a letter to the admiralty, she strongly urged the need for a further search, saying: "It is due to a set of men who have solved the problem of centuries by the sacrifice of their lives." To this letter no reply was made, and efforts for another expedition made by her friends in Parliament were equally futile.

It is needless to say that even such unwonted and discourteous neglect did not silence this noble-hearted woman, whose heroic devotion had been conspicuously displayed in her earlier efforts. It will be remembered that she had previously awakened the interest and engaged the active support of two great nations—Russia and the United States—in the search for the Franklin squadron.

Americans will recall with pride that, moved by Lady Franklin's appeal, President Zachary Taylor, in a message of January 4, 1850, urged co-operation on Congress, which took action that resulted in the expedition commanded by Lieutenant E. J. De Haven, United States Navy.

In her letter to President Taylor, Lady Franklin alluded gracefully to "that continent of which the American republic forms so vast and conspicuous a portion," and says: "To the American whalers I look with more hope, being well aware of their numbers and strength, their thorough equipment, and the bold spirit of enter-

LADY JANE FRANKLIN.

prise which animates their crews. But I venture to look even beyond these. I am not without hope that you will deem it not unworthy of a great and kindred nation to take up the cause of humanity, which I plead, in a national spirit."

On learning of the attitude of the American press, she wrote: "I learn that the people of the United States have responded to the appeal made to their humane and generous feelings, and that in a manner worthy of so great and powerful a nation—indeed, with a munificence which is almost without parallel."

Now the efforts of three nations having failed, Lady Jane then resolved to undertake a final search at the expense of herself and of her sympathizing friends. There was then available the *Resolute*, abandoned by Belcher, brought back by the American whaler, J. M. Buddington, bought by the American Congress, and presented to the Queen. The admiralty would neither loan the *Resolute* nor any of its surplus stores suited for arctic service. By the efforts of Lady Franklin and her friends the steam-yacht *Fox* was sent forth on an expedition that cost about thirty-five thousand pounds sterling, of which the greater portion came from Lady Jane's private fortune. McClintock and Allen Young volunteered to serve without pay, and both Hobson and Dr. Walker made similar pecuniary sacrifices.

At McClintock's request Lady Jane wrote out her wishes, in which the personal element came last. She says: "The rescue of any survivor of the *Erebus* and *Terror* would be to me the noblest results of our efforts.

To this object I wish every other to be subordinate; and next to it in importance is the recovery of the unspeakably precious documents of the expedition, public and private, and the personal relics of my dear husband and his companions. And lastly, to confirm, directly or inferentially, the claim of my husband's expedition to the earliest discovery of the passage, which, if Dr. Rae's report be true (and the government has accepted it as such), these martyrs in a noble cause achieved at their last extremity."

Captain Sir Leopold McClintock sailed July 2, 1857, inspired by the feeling that "the glorious mission intrusted to me was in reality a great national duty." He was the greatest of arctic sledgemen, having made in unexplored parts of Parry archipelago, without dogs, a sledge journey of one hundred and five days, in which he travelled twelve hundred and ten miles.

Reaching Baffin Bay, the *Fox* had the great misfortune of being caught in the pack in the midst of summer, on August 15. McClintock's experiences and sufferings were horrible. His assistant engineer died of an accident, and for days at a time the *Fox* was in danger of instant destruction from gales, icebergs, and other elements attendant on life in the pack. After a besetment of eight months and nine days, in which she drifted twelve hundred miles to the south, the yacht escaped, buffeted, racked, and leaking.

The winter in the pack was not entirely without the presence of game, for in the beginning of November a bear crept up to the yacht, attracted by odors from the

cook's galley. Fortunately an alert quartermaster detected his form outlined against the snow and at once shouted to the dogs. Some of them ran like cowards, while others, rushing the bear, closed in on him, biting his legs as he ran. Crossing a lane of lately frozen sea, the bear broke through the new ice, followed by a number of dogs who held fast to him in the water-space. One dog, old Sophy, fared badly at close quarters, receiving a deep cut in one of her shoulders from his sharp claws. It took four shots to kill the animal, it being a large male bear seven feet three inches long. McClintock tells us that "The chase and death were exciting. A misty moon affording but scanty light, dark figures gliding singly about, not daring to approach each other, for the ice trembled under their feet, the enraged bear, the wolfish, howling dogs, and the bright flashes of the rifles made a novel scene."

The escape from the pack was made under conditions that would turn one's hair gray in a few days. For eighteen hours the chief stood fast at his engines, while navigation was made through very high seas, with waves from ten to thirteen feet high, which threatened to destroy the yacht by driving against her great ice-floes which shook the vessel violently and nearly knocked the crew off their legs.

Return to Europe for repairs seemed inevitable, but with the thought of poor Lady Franklin in his heart, McClintock patched up the ship as best he could in Greenland, and, crossing Baffin Bay, was driven, after

a fruitless sea-search, to winter quarters in Port Kennedy, 72° N. 94° W.

Hunting filled in the winter, though most animal life had gone south. Lemmings were plentiful, about twice the size of and resembling the short-tailed field-mouse. Bold and fearless, they enlivened the members of the crew. An ermine visited the ship, and, being seen by one of the dogs, the pack set up a perfect pandemonium in their efforts to catch him. The beautiful snow-white creature rather unconcernedly watched the efforts of the dogs to get at him under the grating of the boat where he was safely ensconced. It was amusing to see an ermine play around the ship, and when closely pursued by man or by dog plunge into a drift of soft snow only to reappear at a considerable distance and in a quarter where least expected. It was with the active little animals a kind of hide-and-seek game, with their lives for forfeit if they were caught.

During Hobson's long journey to lay down an advance depot he lost a dog actually from overcare. She had the bad habit of gnawing and eating her seal-thong harness, and to prevent this Hobson caused her to be tightly muzzled after the evening meal. One of the numberless dog-fights occurred during the night, and with the trait so common to these half-wolfish beasts they fell on the least defenceless, and the whole pack bit and tore almost to pieces their muzzled and defenceless sister. Her wounds were so many and so deep that she died during the day.

In this journey Hobson's party barely escaped per-

ishing through a violent northeasterly gale which drove seaward the ice-pack on which they were encamped. McClintock says that on discovering that the entire ice-field was adrift "They packed their sledge, har-

King William Land.

nessed the dogs, and passed the long and fearful night in anxious waiting for some chance to escape. A little distance offshore the ice broke up under the influence of the wind and sea, and the disruption continued until the piece they were on was scarce twenty yards in diameter. Impelled by the storm, in utter darkness and amid fast-falling snow, they drifted across a wide

inlet. The gale was quickly followed by a calm, and an intense frost in a single night formed ice strong enough to bear them safely to land, although it bent fearfully under their weight. Their escape was indeed providential."

Death spared these men of action in the field, but it invaded the ship, and Brand, the engineer, died of apoplexy.

When the sun came back after seventy-three days of absence, McClintock decided to take the field, and started February 14, earlier than any previous arctic traveller, for an extended journey. His great hope of success depended on finding Eskimos in the region of the north magnetic pole, which entailed a trip of four hundred and twenty miles, in temperatures as much as eighty degrees below the freezing-point.

Sledging through an unknown country, wearily breaking day after day a trail for his emaciated, untrained dogs, McClintock vainly searched the unbroken snowy wastes for trace of sledge or of man, and anxiously scanned the dreary landscape for sight of the longed-for igloo or hut. The cold was intense, the land was barren of game, the region seemed accursed in its desolation, while the conditions of travel were hard in the extreme.

The absence of human life was far more distressing to the heroic McClintock than the rigors of the journey, for without Inuit aid the labors and sufferings of his crew and of himself would be unavailing. Was it possible that the region was abandoned by beast

and so by man? Was his mission destined to be a failure? Could he succeed without Eskimo help?

He reached the magnetic pole without seeing any one, his dogs in such fearful plight that he could advance but one day farther. Six of the dogs were then useless, and during the journey the poor animals had so suffered from poor food, intense cold, and bad snow that several of them had repeatedly fallen down in fits.

When he was quite in despair, several Eskimos returning from a seal hunt crossed his trail and visited his camp. From the winter colony of forty-five Boothians he gained his first tidings of the missing explorers. One native said that a three-masted ship had been crushed by ice to the west of King William Land, but the crew came safe to shore. Another told of white men who starved on an island (probably Montreal) where salmon came. That the men had perished was quite clear from the abundance of Franklin relics among the Eskimos—buttons, knives, forks, McDonald's medal and a gold chain, which McClintock bought at the average price of one needle each. None of the Inuits had seen the whites, but one native had seen some of their skeletons.

An example of the disregard of the natives for extreme cold made McClintock shiver with pity and anger. He says: "One pertinacious old dame pulled out her infant by the arm from the back of her large fur dress, and quietly held the poor little creature, perfectly naked, before me in the breeze, the temperature at the time

being sixty degrees below the freezing-point." McClintock at once gave her a needle, for which she was thus begging, but was considerably alarmed for the infant's safety before it was restored to the warmth of its mother's fur hood.

Active sledging, meantime, by Young, Walker, and Hobson, had no results beyond snow-blindness, freezings, and other suffering for these resolute and efficient officers. McClintock himself, on his return, was scarred by frost-bites, his fingers calloused by frequent freezings, and his body thin with scant food, which made him eat, Boothian fashion, "frozen blubber in delicate little slices." These physical hardships were as nothing in return for the mental satisfaction of tidings of Franklin, with intimations as to the locality of the regions in which further research would doubtless produce results. He was determined to explore the whole King William region, and thus obtain further information as to the fate of the second ship.

McClintock then outfitted his sledge party for a journey of eighty-four days, with Hobson as assistant, while Young was to establish supporting depots of food, the field of operations to be southwest of the magnetic pole.

The journey to the Boothian village was, like other arctic travel, under bad conditions. The uncomplaining leader tells us that despite colored glasses their eyes were inflamed and nearly blinded, while the tale was further told by their blistered faces, frost-bitten members, cracked lips, and split hands. The discomfort of their camps may be inferred from the fact that it took

an entire day to clear from accumulated ice and hoar-frost their sleeping-bags and camp gear. The exhausting character of their march is evident from the load of two hundred pounds hauled by each man and the hundred pounds pulled by each dog.

Two Boothian families now told McClintock that one ship sank and that the other broke up on shore where she was forced by the ice. The body of a very large man with long teeth had been found in the ship visited by the Inuits. The crew had gone, taking boats along, to the "large [Back] river," where their bones were later found. An old Eskimo woman and boy had last visited the wreck during the preceding winter, 1857–8.

On leaving the magnetic pole, in order to extend the field of search, Hobson was sent down the west coast of King William Land. McClintock following the land to the east of that island fell in with forty natives, who confirmed the information earlier obtained, and from whom he bought silver plate marked with the crests of Franklin, Crozier, Fairholme, and McDonald.

It was the middle of May when he reached snow-clad Montreal Island, which he fruitlessly searched with as much thoroughness as was possible under conditions of blizzard weather and zero temperatures. Of his travel troubles he tells us that driving a wretched dog team for six weeks had quite exhausted his stock of patience. He relates: "None of the dogs had ever been yoked before, and they displayed astonishing cunning and perversity to avoid whip and work. They bit

through their traces, hid under the sled, leaped over each other until the traces were plaited and the dogs knotted together. I had to halt every few minutes, pull off my mitts, and at the risk of frozen fingers disentangle the lines. When the sledge is stopped or stuck fast in deep snow, the perfectly delighted dogs lie down, and the driver has to himself extricate the sledge and apply persuasion to set his team in motion."

His hopes of finding tangible information as to the Franklin records had been centred on Montreal Island, which Rae's report (p. 139) indicated as the scene of the final catastrophe. McClintock's thorough search of that region had been futile. Must he return to England and face Lady Franklin with the admission that her years of effort and her sacrifice of personal fortune had produced no additional results? Was the fate of England's noted explorers to remain always a mystery? Were the records of work done and of courage shown by the officers and the men of the royal navy lost forever to the world? A thousand like and unbidden thoughts filled incessantly the tortured brain of this the greatest of arctic sledgemen. However, it was not in the nature of this noble-hearted man to despair utterly, or to cease from labors to the very end.

Sick at heart and worn in body, the indefatigable McClintock turned shipward, and almost despairingly took up the search of the south coast of King William Land. Here he tells us: "On a gravel ridge near the

beach, partially bare of snow, I came upon a human skeleton, now perfectly bleached, lying upon its face. This poor man seems to have fallen in the position in which we found him. It was a melancholy truth that the old woman spoke when she said: '*They fell down and died as they walked along.*'" Sad as may appear the fate of this man, one of the rank and file of the expedition, his indomitable courage in struggling to the last moment of his life will always stand as an instance of the high endeavor and heroic persistency of the British race.

Welcome as was the indirect information obtained in this and in other places near by, McClintock's heart was supremely gladdened at finding in a small cairn, prominently placed, a note from Hobson who had found an abandoned boat, in which were two skeletons, with crested silver, etc., and, most vital of all, a record from Franklin's expedition.

It appears that Hobson found on the south side of Back Bay, King William Land, a record deposited by Lieutenant Graham Gore in May, 1847. It was in a thin tin soldered-up cylinder, and proved to be a duplicate of the record also found by Hobson at Point Victory. The latter record was in an unsoldered cylinder which had fallen from the top of the cairn where it was originally placed. It was written on one of the printed blanks usually furnished to surveying and to discovery ships to be thrown overboard in a sealed bottle, with a request to return it to the admiralty. This written record, in full, ran as follows:

"H. M. Ships *Erebus* and *Terror* 28th of May 1847. Wintered in the ice in Lat. 70° 5′ N., Long. 98° 23′ W. Having wintered in 1846–7 [should read 1845–6] at Beechey Island, in Lat. 74° 43′ N., Long. 91° 39′ 15″ W. After having ascended Wellington Channel to Lat. 77°, and returning by the west coast of Cornwallis Island. Sir John Franklin commanding the Expedition. All well. Party consisting of 2 officers and 6 men left the ships on Monday 24th May 1847.

"Gm [Graham] Gore Lieut.

"Chas F Des Voeux Mate."

On the margin of the above record was written the following:

"April 25, 1848, H. M. Ships *Terror* and *Erebus* were deserted on the 22nd of April, 5 leagues N.N.W. of this, having been beset since 12 September, 1846. The officers and crew, consisting of 105 souls, under the command of Capt. F. R. M. Crozier, landed in Lat. 69° 37′ 42″, Long. 93° 41′ W. This paper was found by Lieut. Irving, under the cairn supposed to have been built by Sir James Ross in 1831, 4 miles to the northward, where it had been deposited by the late commander Gore in [May, erased and therefor substituted] June, 1847. Sir James Ross' pillar has not however been found and the paper has been transferred to this position, which is that in which Sir J. Ross' pillar was erected. Sir John Franklin died on the 11th of June, 1847, and the

total loss by death in the Expedition has been to date 9 officers and 15 men.

" F. R. M. CROZIER, Captain and senior officer.

" JAMES FITZJAMES, Captain H. M. S. *Erebus*.

"And start to-morrow, 26th, for Back's Fish River."

These are the only records that have ever been found, and the thorough search made by Hall, Schwatka, and Gilder make it most improbable that any other will ever be discovered.

The heroic persistency of Hobson in locating these precious papers is akin to that shown by the steward who fell down and died as he walked. When ten days out from the ship Hobson found that he was suffering from scurvy, but he went on and in a month walked lame. Near the end of his journey of seventy-four days he was not able to walk more than a few yards at a time, and so had to allow himself to be dragged on the sledge. When he arrived at the ship he was neither able to walk nor even to stand without assistance. Worthy comrades were Sir Allen Young and Dr. Walker, whose strenuous and co-operating labors made this success possible, for which they also paid the price in physical suffering and in impaired health.

McClintock himself played many parts, for with his two engineers dead he stood at a critical time twenty-four consecutive hours at the engine, while Young from the crow's nest piloted the *Fox* out of the ice-pack on her homeward voyage, in August, 1859.

With characteristic modesty McClintock dwells

lightly on his own work, and ends his story with a merited tribute to "those heroic men who perished in the path of duty, but not until they had achieved the grand object of their voyage—*the discovery of the northwest passage.*"

While the self-sacrificing heroism of McClintock and of his loyal companions solved the mystery of the English sailor dead, which their powerful government had been unable to reveal, yet the initiation and in part the prosecution of this work were due to the wifely and patriotic devotion of Lady Jane Franklin.

Well and truly has it been said of this true woman: "So long as the name of Franklin shall be bright in the annals of British heroism will the unwearied devotion and energy of his widow be with it remembered and honored."

THE MARVELLOUS ICE-DRIFT OF CAPTAIN TYSON

THE MARVELLOUS ICE-DRIFT OF CAPTAIN TYSON

"To die be given us, or to attain!
Fierce work it were to do again."
—ARNOLD.

ONLY once in our history has the United States sent forth an expedition to reach the north pole, and that was under Charles Francis Hall, already distinguished for his daring arctic work in search of relics of the Franklin squadron. Hall sailed in the *Polaris*, and in a voyage of unusual rapidity, passing through Smith Sound, added to his fame by discovering Robeson Channel and its bordering lands. He broke the record in navigating his ship to 82° 11′ north latitude, in the Great Frozen Ocean, which was reached August 30, 1871. The *Polaris*, forced southward by the arctic pack, wintered at Thank God Harbor, Greenland, where Hall died of apoplexy. With his death the north-polar quest was abandoned, and the ice-master Buddington sailed homeward the following summer. Pushed hastily into an impassable pack, the ship was subjected to its vicissitudes for two months without possibility of escape. Drifting steadily southward the *Polaris* was off Northumberland Island on October 15, 1872, when she was nearly destroyed by a violent blizzard and her crew was separated—half on the floating

pack and the rest on shipboard. The latter party beached the sinking ship in Life Boat Cove, where the crew wintered. Going south in 1873 they were picked up by the whaler *Ravenscraig* near Cape York. The story of the separation and of the experiences of the castaways follow.*

Above the shining waters of the blue and historic Potomac at Washington rise the oak-crowned hills of Arlington where repose many heroic dead in our American Valhalla. Side by side in almost countless rows stand thousands of plain white stones which preserve for coming patriotic generations the names and memories of those who died for the Union. Here and there the prevailing monotony is broken by a more ambitious monument raised by family or by friends. These men, inspired by patriotism as a rule, did deeds of valor, with weapons in hand, in the face of an armed foe. But the men of the American nation have conquered fate in other fields than those of war, and such services are elsewhere commemorated in Washington. In the Hall of Fame at our national capital each American State places the statues of its two most distinguished servitors—in memory of deeds done for the good and the greatness of the State. And near by the Congressional Cemetery contains stately shafts and memorial columns that mark the graves of other men famous in national annals through civic worth.

Yet there are other heroes than those of war or of

*See map, page 95.

civic service buried within sight of the majestic monument to Washington or of the graceful dome of the Capitol. In the shades of Greenwood stands a plain shaft of black marble whereon the passer-by may read as follows:

"To the memory of an arctic hero, Captain George E. Tyson, 1829–1906. In 1872–73, while adrift on an ice-floe 196 days, he saved the lives of 18 companions. *They serve God well who serve his creatures.*"

This memorial, built through small contributions from self-denying men of meagre means, was in honor of a plain man of small education, of humble occupation, who loved his fellows. It therefore seems well that the tale of his arctic services thus recognized should be told anew to the rising generation of Americans that his deeds may not soon fade from the minds of men.

The fateful disaster of October 15, 1872, which led to the Tyson floe-drift occurred in the midst of a dark winter night when a snow-filled hurricane wind drove huge icebergs through the solid and seemingly impenetrable ice-field in which the *Polaris* was fast beset. As if by magic the solemn, quiet calm of the polar night was broken by a series of tornado-like gusts, and soon the responsive ice-field quivered as though upcast by a marine earthquake. The howlings of the wind were broken by horrible groanings from the moving polar pack, while now and then arose deafening sounds, as of a cannonade, from the explosions of the ice-surface. It takes much to move to fear men long in arctic service, but the quiet ship life was stirred into startled action

when heavy floes near the ship began to split into countless fragments. One and all knew that the long-dreaded peril was upon them—the disruption of the polar pack. For weeks they had watched with pleasure the changing lights and reflected tints from their azure-colored neighbors—the tall, white sentinels of the arctic seas. After pleasure the pain, and now with terror they saw the pale blue icebergs of enormous size—wind-driven and slow-moving—plough their way serenely through the main pack of flat-topped paleocrystic floes scores of feet in thickness.

Under these awful pressures the huge floes, as they met, crumbling at the edges, threw up vast masses of broken ice which in long pressure-ridges acted as buffers. Caught in this maelstrom of whirling, upturning ice the *Polaris* was bodily lifted many feet, quite out of the water, so that she careened on her beam ends.

In this crisis, amid intense excitement, some one cried out that the ship's sides were broken in and that she was making water freely. At this Buddington shouted: "Work for your lives, boys! Throw everything overboard"—meaning the emergency packages of stores and provisions which for weeks had been kept ready on deck in view of possible and sudden shipwreck. Stores, clothing, records, boats, food, and other articles were frantically cast upon the main floe to which the ship was secured by ice-anchors. Fearing that the *Polaris* would soon sink and carry down in her final plunge everything near her, Captain Tyson busied himself in removing and piling together, at a safe distance, the

scattered stores. While thus engaged the main pack loosened up near the *Polaris*. The ice pressures slowly relaxed, the pressure-ridges dropped apart, and the ship, slipping down into the sea, dragged her ice-anchors, broke her hawser, and was driven out of sight —disappearing almost in the twinkling of an eye, as it seemed to the dazed men yet on the floe.

The stranded men and supplies were not on a single floe, but scattered on several, which were separated by rapidly widening lanes of water. Tyson acted with decision and promptness, and launching a whale-boat at the risk of his life succeeded during that dark, tempestuous night in bringing together the nineteen men, women, and children on the immense floe to which the ship had been anchored for weeks. Here the exhausted party huddled together under some musk-ox skins, which in a degree protected them from the increasing southwest blizzard that then prevailed; but dawn found them chilled to the bone, covered with the heavy snow-fall of the night.*

Tyson took charge and at once decided to abandon the floe and the main supplies, knowing that the party would be safe if it could reach land and the Etah Eskimos. The ice had so drifted that the shore was within a few miles, and the party in an attempt to reach it was hurried into the boat, which unfortunately had

* Of this situation Hans Hendrik, in his "Memoirs," written in Eskimo, says: "But especially I pitied my poor little wife and her children in the terrible snow-storm. I began thinking: 'Have I searched for this myself by travelling to the north? But no! we have a merciful Providence to watch over us.' At length our children fell asleep, while we covered them with ox-hides in the frightful snow-drift."

only three oars and was rudderless. Two men actually reached the land over the ice, on a scouting trip, but later the wind, ice, and tides were so adverse that Tyson decided, as the pack closed in front of the boat, to return to their original floe.

Although sadly reduced in size by the action of the grinding pack and by the ploughing icebergs, the flat-topped floe-berg was still enormous. Nearly circular in shape, and averaging quite a hundred feet in thickness, its area was about seven square miles. With its diversified surface of hill and dale, favored by several fresh-water lakes, and of marble-like texture and hardness as to its ice, it seemed to be a floe-berg of such solidity and extent as would insure safety under any and all conditions.

The castaways numbered nineteen in all—Captain Tyson, Signal Sergeant Meyer, eight seamen, and nine Eskimos, of whom seven were women and children. Except Tyson and the negro cook Jackson, there were no Americans in the party.

With the foresight, system, and judgment which insured the final safety of the party, Tyson collected the materials scattered over the several floes, inventoried and provided for the safety of the food, and insisted on a fixed ration. Their food supplies on October 18 consisted of 14 hams, 14 cans of pemmican, 12 bags of bread, 1 can of dried apples, 132 cans of meats and soups, and a small bag of chocolate. They also had 2 whale-boats, 2 kayaks, an A-tent, compasses, chronometer, etc., rifles and ammunition.

Food was of surpassing importance, and Tyson calculated that the supply would last four months at the rate of twelve ounces daily to each adult, the Eskimo children to receive half rations.

To insure an equable distribution of the food, Tyson took charge and personally measured out both bread and pemmican. Later he was able to give exact weights through a pair of improvised scales. They were made by Meyer most ingeniously of a lever balance taken from an aneroid barometer and connected with a three-cornered rule; the weights used were shot from their shot-gun ammunition.

The foreigners of the party, except the docile Eskimos, were not thoroughly amenable to command. After Hall's death the failings of the sailing-master in command, Captain Buddington, were such that he could not maintain proper discipline, and hence a certain degree of demoralization existed among the seamen. The rule of the sea that loosens bonds and makes seamen free from service on the loss of a ship, was also injuriously felt.

As a result Tyson's powers of control simply arose from his high character, sound judgment, and professional knowledge. His orders were obeyed as seemed convenient, but, as one man testified under oath, "When we didn't [obey his orders] we found out it didn't turn out well"—the highest of praise.

With increasing cold the tent was no longer habitable, and it became necessary to provide warm shelter, which was done through the building of igloos, or snow

huts, by the Eskimo Ebierbing (Joe) and Hans Hendrik. Hans and his family of six built their igloo a little apart from the others. While there were five separate igloos, they were thrown into close connection by a system of arched snow passages through which the men came and went without exposure to the weather. Some delay and trouble occurred in finding suitable drifts of packed snow from which were dexterously carved the snow slabs needful for the huts. The very low entrances to the igloos were covered by a canvas flap frozen into the outer wall so as to exclude almost entirely the entrance into the hut of either cold air or wind-driven snow. Feeble light was introduced through windows made of thin slabs of fresh-water ice cut from an adjacent lake.

From the entrance the canvas-covered snow floor sloped gently upward to the rear of the igloo, thus making that portion of the room a little higher and somewhat warmer, as the colder air flowed down toward the door. Their scant bedding of sleeping-bags and musk-ox skins was arranged in the rear of the hut, on canvas-covered boards, where, however, the arched snow roof was near the head of the sleeper. The only place where one could stand erect was in the very centre of the hut, where the separate messes cooked their scanty meals.

Tyson and the Eskimo families did their cooking from the first by lamp, native-fashion, the lamps being made from pemmican cans with wicks of canvas ravelings. He urged the others to follow the example thus

set, telling them that this economical method was necessary owing to scarcity of fuel. The seamen tried it for a while, but as there was much smoke from lack of care they abandoned the lamp. Despite Tyson's advice, they began, with reckless disregard for the future, to break up the smaller of the two boats and use it as fuel for cooking. In excuse they said that the astronomical observations and opinions of Meyer showed that the floe was drifting toward Disco, Greenland, and that they would soon reach that place and the occupancy of the ice camp would be of short duration.

On October 27 the sun left them permanently for three months, and soon the bitter, benumbing cold of the arctic winter was felt by all. The cold, hunger, and short rations soon affected both body and mind, causing less bodily activity and inducing a sharpness of temper which often led to long and angry discussions among the seamen.

An unfortunate loss of food occurred in connection with the dogs, all nine having been kept for bear-hunting. Slowly perishing of starvation, the wolfish dogs succeeded in breaking into the storehouse, and devoured everything within reach before they were discovered. Five of the most ravenous brutes were shot, greatly to the advantage of the Eskimo, who made a royal feast. The white men, not yet reduced to extremities, looked on with amusement as their native companions with luxurious satisfaction cooked and swallowed the slaughtered animals.

Tyson's experiences as a whaler made him realize

that the only chance of life lay in obtaining game, and so he organized and encouraged hunting-parties. All the men were armed except the captain himself, but it must be here admitted that the entire crew of seamen did not obtain enough game, during the drift of six months' duration, to make a single meal for the party. The successful hunters were the Eskimo, Ebierbing (Joe) being most successful, though Hans Hendrik killed many seal.

Once Hans barely escaped death from the rifles of Ebierbing and Seaman Kruger, as in the darkness they mistook him for a bear owing to the color of his snow-covered fur clothing and to the lumbering methods by which he climbed over the hummocky ridges. Fortunately the hunters waited for a better shot, and meantime saw that it was Hans.

Matters were getting bad after one boat had been burned and there was no blubber left for cooking. Some of the men were so weak that they trembled as they walked, and the native children often cried from the pangs of hunger. Once the men ate the seal meat uncooked and undressed, so keen was their hunger.

As no bears appeared, seal-hunting was followed with renewed and feverish energy. At first seal were killed in open water-spaces around the edges of the floe. When the extreme cold cemented together the floes, it was necessary to hunt carefully for seal-holes—places where the seal comes regularly for air, keeping the hole open by his nose, rising and breaking the new ice as it forms from day to day.

Such holes are only three or four inches across, and it often requires long search before the trained eye of the seal-hunter locates a breathing space. Even then unwearied patience and great skill are needful for successful hunting. Seated by the hole, with his back to the wind, his feet on a bit of seal-skin, with a barbed spear in his hand, the Inuit hunter steadily and intently fastens his eyes on the glazed water-space where the animal rises. Often it is hours before the seal comes, if indeed at all, and he is caught only through a swift, single stroke by which the spear unerringly pierces the thin skull of the animal. Five seals were killed during November, and Thanksgiving day was celebrated by adding to the usual meal a little chocolate and some dried apples.

The moral attitude of the greater number of the seamen was evident from several incidents. On Thanksgiving day the captain suggested that all unite in some religious service appropriate to the day and to their situation, but the seamen were unwilling to participate.

In marked contrast were the feelings of the Inuit Hans Hendrik, who thus writes: "I considered the miserable condition of my wife and children, on a piece of ice in the mid-ocean, then I pronounced my prayer:

Jesu, lead me by the hand,
While I am here below;
Forsake me not.

With bad judgment Meyer, who was an under-officer, left Tyson's hut and joined the seamen—mostly

Germans like himself. As a result of the growing demoralization, incursions were made on the food by unknown persons, and when Tyson was one day sick a seaman made the issues and then decided to retain this duty. There had been complaint that Tyson was too stingy in his issues, and the new issuing officer gave with freer hand in accord with the wishes of the heedless few.

Tyson was then driven to leave his lonely hut for the igloo wherein lived Ebierbing and his worthy wife Tookoolito (Hannah) and their young adopted daughter. This hut was the very centre of activity on the floe. Apart from the time needful for cooking, Tookoolito busied herself either in deftly mending the torn and sadly worn skin garments of her husband and of Tyson, or in making some article that would add to the general comfort and be of daily use. Thus the party was divided into two camps, one of care and production, the other of amusement and consumption. Ebierbing kept the field daily, and his success as a hunter proved to be the salvation of the party. Hans did what he could, it is true, but he was either less skilful or less fortunate than his native companion. The crew did almost nothing save to cook the food given them. They scarcely took exercise and filled in their time with endless discussions as to the future or with a pack of cards made out of heavy paper. Tyson controlled the Eskimos alone, and gave advice to the men only as occasion urgently demanded.

The winter month of December passed badly, with

increasing darkness, severer cold, and despondent feelings. The poor natives, hearing so much desperate talk, unfortunately gained the notion that in the last extremity, which then seemed to be at hand, they would be sacrificed, and much uneasiness was felt by Tyson who strove to reassure them. Two wretchedly thin foxes, giving about three ounces of fresh meat to each man, was the only game up to Christmas, and nothing was encouraging except the steady drift to the south.

The captain felt it best to give a *starvation feast* on Christmas, and so added to the usual ration the last remaining delicacies—a bit of frozen ham, a few spoonfuls of dried apples, and a swallow or two of seal blood saved in a frozen condition. The knowledge that the sun was returning, of southing being made by drift, and chances of game increasing were conditions of hope that made it an almost cheerful holiday.

Actually they were in desperate straits of hunger, for Tyson relates that in his igloo they ate greedily the refuse of the cooking-lamp oil. Tookoolito turned into food and cooked pieces of dried seal-skin which had been set aside for repairing their clothing. Of this Tyson says: "It was so very tough it made my jaws ache to chew it."

Day after day, in storm and in calm, faithful Ebierbing kept the field, always hoping for success on the morrow. After thirty-six days of unsuccess he killed a seal in the open sea. Shot through the brain, the seal floated until he could be reached by that wonderful skin boat of

the Eskimos—the kayak. Then land shot up into view to the southwestward, and all felt that they were saved.

The new year of 1873 opened in dreary form, with no game, and a dinner of two mouldy biscuit with seal entrails and blubber served frozen, as their fuel was gone. The improvident seamen had not only burned one boat, but even the boards under their sleeping-robes. Compelled at last by dire need, they now made a lamp from an old can and began to cook Eskimo-fashion. Most of the time the seamen passed idly in their igloo, quarrelling and disputing. In their ill-clad, half-starved condition they suffered terribly from the severe and prolonged cold of January, during which the mercury was often frozen, with occasional temperatures seventy degrees below freezing. Hopes of relief were high when a bear was found near, and then came a feeling of despair when the animal escaped after injuring badly the two remaining dogs.

Affairs then went from bad to worse, and the utter disruption of the party was imminent, although Tyson used to the utmost his powers of command over the natives and of persuasion with the seamen. An unruly and mutinous member of the crew invaded Tyson's igloo, roundly abused the captain, and even threatened him with personal violence, well knowing that he was unarmed. The evil effects of such conduct was so plain to all that the culprit was forced by public opinion to make an apology for his actions and thus in a manner to strengthen Tyson's hands in the future.

After an absence of eighty-three days the sun re-

turned on January 19, which gave new courage to the natives and increased chances of game. When they killed a seal after many days of hunting, the starving seamen, almost crazy at the sight of food, dragged the animal into their own igloo and gave to the hunters only a small and unfair part of the meat and blubber. With difficulty Tyson was able to mollify the offended natives, by whom this injustice was the more felt as Tobias, one of Hans's babies, was quite sick and could not eat pemmican.

February opened with ten days of fruitless hunting, when Hans fortunately saw a seal thrust his head up through young ice far from the floe. Would he come again? Could he kill him at that distance, and was it possible to bring him in? While asking himself these questions, with his eyes intent on the air-hole, the nose and then the head of the seal rose slowly into view. On this shot might depend their lives, and with the care and slowness of the Inuit hunter, half-starved Hans, with steady hand and unerring aim, sent a bullet through the brain of the seal, paralyzing him and thus keeping the air in the seal's lungs and floating his body. As the thin new ice would not bear a man, Tyson solved the difficulty by putting Hans in his kayak and pushing him forward as far as could be done. With his paddle braced against rough bits of the floe and by squirming his body, Hans finally reached the seal, fastened a line to it, and worked his way back in the kayak.

With food failing again and the revival of the selfish spirit of every man for himself, Tyson's lot

was hard and he knew not what would happen from day to day. Always quiet and cool, he spoke only when there was need, and never with harsh tones or angry words. He did not waste his force on matters of minor importance—an attitude that carried weight in the end.

When almost in despair there came seal after seal, and scores of arctic dovekies, or little auks in winter plumage. Though each of the birds gave but four ounces of meat, they were welcomed both as a change of diet and as harbingers of coming spring. The seamen then listened to Tyson's advice and decided to eke out life on one meal a day, owing to the fast-vanishing stock of bread and pemmican.

Cape Mercy, in about 65° north latitude, was now in sight though forty miles distant. Some of the men were ready to heartlessly abandon the natives, owing to the smallness of the sole remaining boat, but Tyson said tactfully that all *could* go (not *must* go) when the water was ice-free. Preparations were made, the tent enlarged from spare canvas, the ammunition divided, etc., but ice conditions grew worse instead of better.

March opened with a violent storm, which kept all in their igloos save the indefatigable hunters. Then Ebierbing shot a monster harp seal about nine feet long, the largest that Tyson had ever seen, which gave about seven hundred pounds of its rich, nutritious meat and blubber. So delirious were the quite starved seamen that they rushed at the body, carved out pieces and ate them raw, soon being so frightfully besmeared

with blood that they looked like ravenous brutes devouring their prey. The heedless men, who turned to Tyson in all cases of dire distress, now ignored his advice not to eat the liver of the seal, and paid for their imprudence by fits of sickness, fortunately not fatal.

With a persistent, fatuitous belief that they would drift to Disco, the seamen were first aroused to the extreme seriousness of their situation by a most violent gale of sixty hours in which they barely escaped death. As has been said, their igloos were built near the centre of an enormous floe nearly a hundred feet in thickness and fifteen miles in circumference. When the storm began the sea seemed covered by floes of similar size and of equally unbreakable ice. The party again failed to have in mind the many insecure and dangerous ice-bergs which dotted the ice-plain that covered the sea. Throughout the first night the cracking and breaking of the floes sounded like the firing of heavy artillery and the explosion of high-powered shells. Under stress of anxiety the men passed the second night dressed and ready for the worst.

The howling of the gale, the snow-filled air making everything invisible, the recurring roar of the sea, the sound of splitting floes within a few yards of the igloos, and the awful moaning of the moving pack around them, with the steady grinding of colliding bergs, made it a night of horrors. With the gale ended they found themselves saved almost as by miracle, for though their igloos were safe in the centre of a tiny fragment of the great floe, its area was less than a hundred square yards.

Surrounding them were hundreds of icebergs and huge floes of all sizes and shapes inextricably entangled and disrupted. Yesterday they could walk miles on their own floe, now they were confined to a floe-fragment.

Dangerous as was the gale it brought about their safety, for the open pack made seal-hunting more productive. The twenty-three seals which were killed during the succeeding two weeks gave needful food, revived their courage, and renewed their strength. Tyson then arranged to save for emergencies their little remaining bread and pemmican. As they were now off the entrance to Hudson Strait, on the breeding grounds of the seal, their safety as regards food seemed to be assured. But another gale brought fresh and unlooked-for disaster, for while they collided with a large iceberg without destruction they were driven far to the eastward, into the open ocean, where their floe was by itself away from the main ice, with only water in sight.

Tyson knew that separation from the icebergs and floes meant speedy death, and as soon as the sea calmed, April 1, he ordered the party to prepare for the abandonment of the floe. Many objected to leaving their comfortable igloos, with plenty of meat, to seek ice so far to the west that it could not be seen, but they finally obeyed Tyson's orders.

The short-sightedness of the seamen in burning a boat was now evident to all. There were nineteen persons to be crowded into a whale-boat intended for eight. Some of the selfish would have left the natives behind, for taking them meant the leaving behind of nearly all

meat and other dead weights. Bread, pemmican, some ammunition, the tent, and sleeping-gear were put in the boat, and with a spirit of loyalty criticised by the seamen, Tyson took on board the desk and records of Captain Hall. If this man lived it would be with honor; if he died it should be with his self-respect. The fearfully overcrowded boat barely escaped swamping several times—saved only through Tyson's skilful seamanship. Some men were so alarmed that in panic they threw overboard seal meat to lighten the boat. Three days of unremitting labor brought them to a floe that seemed solid, which they occupied in face of bad weather.

They had barely put up igloos when an awful gale burst on them, and for four days it was a steady battle against death. Their floe began to crumble under pressure from other bergs, and Ebierbing's hut was carried off as the floe split. Seeking the centre of the ice they built a new igloo, which lasted for the night only. Next day the floe, caught between two giant bergs, burst with a mighty roar, splitting completely in two, the crack running through the floor of the igloo. They were left on a piece of ice so small that they could not make arrangements for all to lie down together. Everything was put into the boat, and all through the night they stood watch, half-and-half, ready to launch her at a moment's notice. Again the floe split while breakfast was being cooked in the tent, the crack running through the tent; the cook escaped but the breakfast fell into the sea. The tent was again pitched

alongside the whale-boat. The tent could not shelter all the party, but by turns they got a little sleep.

About midnight there was heard a fearful crash, and, as Hans relates, "The ice which served us as a camping-place parted between the boat on which I slept and the tent. I jumped out to the other side, while that piece on which the boat was placed moved off quickly with Mister Maje [Meyer] who was seated in the boat, and we were separated from it by the water. Our Master [Tyson] asked the sailors to make a boat out of a piece of ice and try to reach it, but they refused. We had never felt so distressed as at this moment, when we had lost our boat. At last I said to my comrade [Ebierbing]: '*We must try to get at it!*' Each of us then formed an *umiardluk* [a bad boat] out of a piece of ice, and in this way passed to the other fragment. As now we were three men we could manage to put the boat into the water. On doing so Mister Maje [Meyer] fell into the sea; Ebierbing pulled him up. Meanwhile the ice had screwed together, and we stood still. At this time night fell, and our companion who had been in the sea, now lying in the boat, was like to freeze to death. I said to my comrade that if he remained so he would really die. When I had spoken we asked him to rise, saying that if he remained he would perish. The first time he rose he tumbled down, but, after having walked a long time, he recovered. At daybreak we discovered our friends close by, and the ice joined together. They came to us and assisted us to drag the boat over to them."

"WE WERE NEARLY CARRIED OFF, BOAT AND ALL, MANY TIMES DURING THIS DREADFUL NIGHT."

From Tyson's "Arctic Experiences."

The crucial trial on the evening of April 20 may best be realized from Tyson's graphic description: "Finally came a tremendous wave, carrying away our tent, skins, and bed-clothing, leaving us destitute. The women and children were already in the boat (Merkut having her tiny baby Charlie Polaris, Inuit-fashion, in the hood of her fur jacket), or the little ones would have been swept into watery graves. All we could do was to try and save the boat. All hands were called to man the boat—to hold on to it with might and main to prevent it being washed away. With our boat warp and strong line of *oogjook* (seal) thongs we secured the boat to vertical projecting points of ice. Having no grapnels or ice-anchors these fastenings were frequently unloosed and broken, and we had to brace ourselves and hold on with all the strength we had.

"I got the boat over to the edge of our ice where the seas first struck, for toward the farther edge the gathered momentum of the waves would more than master us and the boat would go. . . . We were nearly carried off, boat and all, many times during this dreadful night. The heaviest seas came at intervals of fifteen to twenty minutes. . . . There we stood all night long, from 9 P. M. to 7 A. M., enduring what few, if any, have gone through and lived. Tremendous seas would come and lift up the boat bodily, and carry it and us forward almost to the extreme opposite edge of our piece.

"Several times the boat got partly over the edge and was only hauled back by the superhuman strength which a knowledge of the desperate condition its loss

would reduce us to gave us. With almost every sea would come an avalanche of ice-blocks in all sizes, from a foot square to the size of a bureau, which, striking our legs and bodies, bowled us off our feet. We were black and blue with bruises for many a day.

"We stood hour after hour, the sea as strong as ever, but we weakening. Before morning we had to make Tookoolito and Merkut [the women] get out and help us hold on too. . . . That was the greatest fight for life we had yet had. God must have given us strength for the occasion. For twelve hours there was scarcely a sound uttered save the crying of the children and my orders: '*Hold on! Bear down! Put on all your weight!*' and the responsive '*ay, ay, sir!*' which for once came readily enough."

These awful experiences past, they were rescued ten days later, off the coast of Labrador, by Captain Bartlett of the sealing-steamer *Tigress*. They had lived on an ice-floe one hundred and ninety-six days and drifted fifteen hundred miles. Through God's providence they were restored to the world in health and without the loss of a life or even of a limb.

His work accomplished, the heroic sailor, Tyson, went back to the every-day things of life without parade or boastings, and in an humble position did well and contentedly the ordinary round of work.

In the difficult and dangerous arctic service herein told Tyson did from day to day what seemed his present duty as best he could without thought of self. Without other ambition than to save the lives of the

men, the women, and the children whom Providence had intrusted to his charge, he did not seek but he found fame and good report. Let the youth of our great land note that this is but one of the many cases in our day and generation in which, as Tennyson sings:

> "Let his great example stand,
> Till in all lands and thro' all human story
> The path of duty be the path of glory."

THE SAVING OF PETERSEN

THE SAVING OF PETERSEN

"Only action gives life strength."
—RICHTER.

IN 1875 the British arctic expedition steamed northward through Kane Sea in its attempt to reach the north pole. Its commander, Captain George S. Nares, R.N., thought it prudent to insure a safe retreat by establishing a southerly base of operations where one ship should remain. Nares, in the flag-ship *Alert*, chose the dangerous and exposed winter quarters at Floeberg Beach, an open roadstead of the ice-clad Arctic Ocean at the northern entrance of Robeson Channel. The *Discovery*, under command of Captain S. F. Stephenson, R.N., was laid up at a sheltered anchorage in Lady Franklin Bay, more than a hundred miles to the southward of the *Alert*. An attempt to open communication between the two ships by sledge party failed in the autumn of 1875. With the return of the sun in 1876, after an absence of one hundred and fifty days, it became most important to establish communication with the *Discovery* at the earliest moment. From the *Alert* there was visible far to the eastward, on clear days, the mountains of northwest Greenland, which Nares wished Stephenson to explore instead of making a sledge trip to the Etah Eskimos to the south as originally planned. The heroic

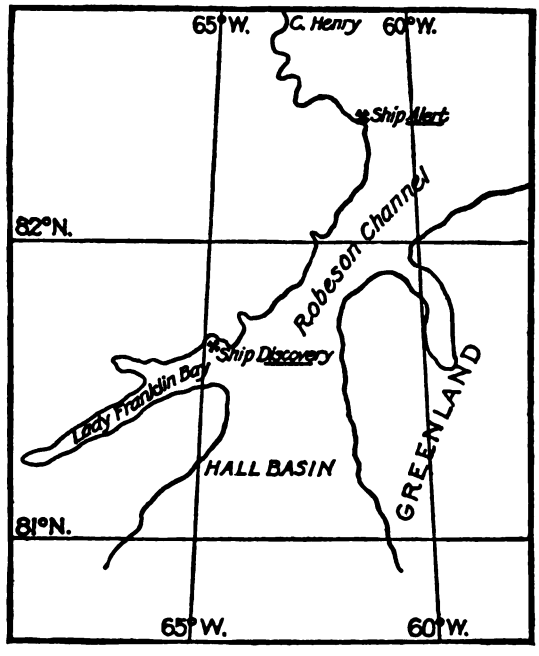
conduct of the officers attempting this journey and their success in saving the life of Petersen are set forth in this tale.

The efficiency of every army and of every navy of the world is known only by the final and supreme test of active service in war, but it is plain that the essential attributes to success—skill, solidarity, and devotion to duty—are acquired in times of peace. Nowhere are greater efforts made to cultivate these admirable qualities than in the royal navy of Great Britain, the most formidable of the world.

Among its chiefs is the second naval lord, whose duties lie especially with the hearts of oak, the men behind the guns, whose courage and skill are the very soul of the service. The second naval lord has in charge the manning and officering of the war-ships; he plans the bringing together at a special place and in a given time the mighty dreadnoughts, the tiny torpedo-boats, the swaying submarines, and the swift destroyers; and he sees that gunnery, marksmanship, and other special training are up to the highest mark. Such a lord should, above all, be a man among men—one inspiring confidence both by knowing when and how times of peril should be met and also through having himself done such service in earlier life.

Such is the life history of Admiral Sir George Le Clerc Egerton, who, passing from a high sea command to duty as the naval aid to his majesty the King, rose a few years since to this lofty station and assumed its im-

portant duties. Great as may be the respect and high as can be the admiration of the world for efficient performance of public duties by officials of high station, yet the hearts of sympathetic, tender-hearted men and



Robeson Channel and Lady Franklin Bay.

women are more deeply moved whenever and wherever they hear a tale of self-sacrifice and of heroic comradeship. Such is the story of this great naval lord, enacted by him as a sub-lieutenant far from the civilized world, on the ice-bound coast of a desolate arctic land, for the safety of an humble dog driver. The nobler the

heart the greater is its sense of duty to helpless dependents in deep distress. And more heroic was the work of Lieutenant Egerton, flying his sledge flag, "*Tanq je puis* (All that I can)," than any done under his stately flag as a naval lord or as admiral of the fleet.

When Captain Nares looked longingly southward from his ship on the Arctic Ocean, wishing in his heart for word of his assistant, he was not blind to the dangers and difficulties of the journey. The preceding September gallant Lieutenant Rawson with strength and courage had pressed on to Cape Rawson. The precipitous cliffs there made a farther journey by land impossible, while the half-open sea was covered with a shifting, ever-moving ice-pack that made the ocean as impassable for a boat as the ice was for a sledge.

Now in late winter the surface of Robeson Channel was covered by a solid, unmoving pack, but the cold was so intense that it could be endured in the field only by men of iron. Day after day the temperature was eighty degrees below the freezing-point, and even when it should moderate the travelling party must be carefully chosen. Rawson was to go as a passenger, for his ship was the *Discovery* to which he was now to return. Of all available officers Egerton seemed to have physical and mental qualities that promised well. Naturally the dog driver—for they were to travel with a dog-sledge—would have been Eskimo Frederick. In this emergency Niels Christian Petersen offered his services, claiming that his arctic experiences and powers of endurance fitted him for such a journey. A Dane by

birth, his years of service in Greenland had made him a skilled dog driver, and experiences with Dr. Hayes in his expedition of 1860 had made him familiar with field service. A vigorous man of forty years, he seemed the best of the three sledgemen for stanch endurance in such ice and weather.

Nares said in his letter of instructions: "In performing this duty in the present cold weather, with the temperature more than seventy-seven degrees below freezing, great caution is necessary." The date of departure was originally fixed for March 4, 1876, the day on which the retiring sun was first clearly seen above the southern hills at 11.30 A. M. The cold was intense, being one hundred and one degrees below the freezing-point. Whiskey placed on the floe froze hard in a few minutes. Egerton's departure was therefore postponed until the prolonged cold ended eight days later.

Meantime it was clear that such awful temperatures would seriously affect the dogs, who were suffering in short exercise marches from the action of the intense cold on the sharp, sand-like snow particles—all separate. Nares relates that in crossing the trails of the dogs near the ship he "noticed, lying on the floe, numerous frozen pellets of blood which always form between the toes of these animals when working during severely cold weather. The heat of the foot causes the snow to ball; this soon changes into ice, and collecting between the toes cuts into the flesh. On board of the *Resolute* in 1853 we endeavored to fit our dogs with blanket pads on their feet, but these were found to increase the

mischief by first becoming damp and then freezing, when the hardened blanket cut into the sinews at the back of the dogs' legs."*

On March 12, 1876, Petersen threw forward the long flexible lash of his Eskimo whip, calling sharply to the waiting dogs, and the party dashed off in a temperature of minus thirty degrees. Petersen, Rawson, and Egerton took turns on the sledge, one riding at a time. The others ran behind the sledge, holding fast each to one of the upstanders.†

The dogs ran freely with their very light load of fifty-one pounds per animal, for a full load would be about one hundred pounds for each dog. An hour's travel in a cross wind—filled with the fine drift of sand-like snow so common in the arctic—made them all put on their *blinkers* (face-protectors against the cold, made of carpeting material) to keep their faces from freezing solid. Every care was taken by the watchful Egerton to guard against frost-bites. Each quarter of an hour he stopped the sledge for a moment, when each sledgeman examined the faces of his comrades. Whenever a whitish spot was seen, the warm palm of the bare hand was placed against the frozen flesh which at once thaws.‡

* In my own expedition we shod our dogs for travel in very cold weather with neatly fitting, thin, oil-tanned seal-skin shoes. Though a shoe was occasionally lost, as they had to be tied on loosely, the feet of the dogs were well protected.

† The upstanders are stout poles rising from the extreme rear of the sledge by which the driver is able to steer or direct the course of the sledge itself.

‡ The rubbing of frozen places with snow, so often recommended, is most injurious in the extreme north. In my own expedition it was once suggested

As closely as possible Egerton followed the favorite line of travel, along the high ice-foot of the bold shore, inside or outside as conditions required. This name is given to the ice-ledge which forms by gradual accretion on the rocks or earth of the shore. As the main sea ice rises and falls with the tides, the ice necessarily breaks near the shore; the inner, fast-adhering ice is known as the ice-foot, the outer ice as the main pack or the floe. The break is in the form of an irregular fissure called the tidal crack. In the period of the spring tides (when the tides have their greatest ranges) the main pack rises at high tide above the ice-foot, and through the tidal crack flows the sea, covering and filling the irregularities of the ice-foot. This overflow freezes, leaving a smooth, level surface particularly favorable for sledge travel until it is broken up by pressure from the moving pack.

Egerton found the ice-foot in good shape for some distance, but now and then was driven to the main floe of Robeson Channel. The ice of the strait was a mass of broken, irregular blocks, often loose in arrangement and sharp in forms. Its surface and the difficulties of travel may be best likened to marching over great blocks of anthracite coal, save that the ice is bluish-white instead of black.

The lieutenant made a short day's march, going early into camp to avoid overworking the unhardened mus-

to a man whose nose was freezing, as a matter of joke. Taken seriously, the unfortunate man rubbed his nose freely. The sharp, sand-like particles of snow acted like a file, and scraped off the skin so that it was a week or more before the man's face was healed.

cles of man and beast—a sound practice followed by wise arctic sledgemen at the beginning of a long journey.

Even in good weather the making of camp is the worst feature of arctic travel. Everything is frozen solid, from the bread to the bacon, from the tent to the sleeping-bags, which become as stiff as a board. Now conditions were worse than usual owing to the increasing violence of the blizzard. With snow-blinded eyes and a high, annoying wind the putting up of the tent was most difficult, but it was finally done. This gave a wind-protected place where the cook could light his lamp, melt his snow for tea, and thaw out the frozen meat.

Meanwhile the two other men unpacked the sledge and removed the articles into the tent. It was found that the driving wind had sifted fine snow into the provision bags, the sleeping-gear, and everything that was at all exposed. It was a necessary but most tedious labor to carefully brush every particle of snow from each article before moving it into the tent. They knew that a neglect so to do would be felt the next morning through coatings of ice over their gear. While the cook was busy the other sledgemen fed and picketed the dogs. If left loose these domesticated wolves might possibly return to their fellows at the ship, where good food and fighting company were to be had. If they remained at the camp a loose dog would swallow down everything in the shape of skin, hide, or food. More than once an arctic "tenderfoot" has wakened to find his means of travel vanished—sledge-thongs and dog harness entirely gone down the capacious throats of

his ravenous team. Egerton, alive to the situation, carefully stored harnesses and camp gear in the tent with the provision bags.

So bad was the weather that it took six hours of steady labor to make camp, change foot-gear, cook, eat, and enter their sleeping-bags.

With the night passed on the blizzard, and morning came—clear, calm, and bitter cold. Even in the tent the temperature was forty-two degrees below freezing. Frost-bitten hands, ravenous dogs, slowly melting snow, and the watched pot that never boils made slow the striking of camp. It was five and a half hours after leaving their sleeping-bags before they were getting a spark of warmth into their benumbed limbs by steady travel over the arctic trail. Though it was bitter cold the dogs kept taut their traces and progress was rapid for several hours. From time to time Petersen would sigh, and to Egerton's question, "What is the matter?" answer that it was only a pain that would pass. But Egerton felt anxious, as the Dane fell back now and then, and when he said that the cramps in his stomach were terrible, halt was made in a sheltered spot where the cooking-lamp could be lighted. In a half-hour a bowl of boiling-hot tea was served, the finest known restorative of vigor and warmth in cases of arctic exposure—far surpassing rum, brandy, or any alcoholic stimulant. The Dane ate neither the offered bread nor the bacon, and indeed of the latter Egerton said that it was frozen so solidly that even a well man could not put tooth through the lean parts.

Soon they came to very bad travelling, across steeply inclined snow slopes along the bordering cliffs of the ice-bound sea that they were forced to follow. In one place the trail led to a snow-drift thirty feet across, whose steep seaward face ended on a rocky ledge with a sheer outward fall of about thirty feet. It was clearly impossible to move the sledge across, and, Alpine-glacier fashion, a road was slowly hewn out with pick and axe. In other bad places the loaded sledge plunged headlong from the top of high hummocks into masses of rubble-ice in the intervening valleys. In such work animals are quite useless, for the Eskimo dog pulls hard and steady only under conditions where the sledge moves constantly forward. When once stalled the dog team sits on its haunches, welcoming a rest, and watches events composedly. In such cases the skilled driver untangles the traces, straightens out the team, calls out shrilly, cracks his whip loudly, and, as the dogs spring forward, gives a timely and skilful twist to the upstanders which helps the sledge to a new start. If the sledge does not then move it must be unloaded and the dogs again started, or it must be hauled by man-power to an easier part of the trail.

This exhausting labor fell on the young officers, as Petersen was so sick as to be unable to do his part. Standing around, the Dane began to lose that warmth of vigorous circulation that alone keeps a man alive in arctic cold. When finally the dog driver was seized with fits of spasmodic shivering and his face showed frequent frostings, with bits of seriously frozen flesh,

Egerton became greatly alarmed. As they were then making their way through very bad ice, camping at once was impossible. From time to time, however, the officers, quitting the sledge, took the sufferer in hand, and by five or ten minutes of work would get him so thawed out that he could safely go on.

When a good camping-place was reached, though they had travelled only six miles, Egerton at once stopped, hoping that a good night's rest with warm drink and food would bring the Dane around.

The moment that the tent was up Egerton sent Petersen in with directions to change his clothing, get into the sleeping-bag, and make himself comfortable until dinner was ready. Meanwhile the officers unloaded the sledge, picketed the dogs, and cared for the camp gear.

On crawling into the tent Egerton found Petersen groaning, and on examination was shocked to find that he had crawled into the sleeping-bag without changing his clothing. Especially bad was his failure to replace his damp foot-gear by dry socks—a practice of recognized necessity in arctic travel to prevent the feet from freezing at night.

As he was groaning and complaining of much pain, Egerton set to work to relieve him. Finding that both the hands and the feet were severely frost-bitten, the man was made to strip off all his clothing, damp with the sweat of travel, and put on dry undergarments. While Rawson was busy making tea, Egerton set himself to the labor of thawing out the frost and of restoring

circulation by chafing the hardened limbs with his bare hands—a long and difficult task. The sick man took a little hot tea, which his stomach would not retain, but a dose of *sal volatile* (ammonia) with hot rum and water gave temporary relief. A high wind arose and the cold became most bitter, the temperature in the tent falling to fifty-two degrees below the freezing-point. With a cold that would nearly solidify mercury added to their mental troubles, the sufferings of the party were extreme. The hands, face, and feet of the invalid suffered repeated frost-bites, which the devoted officers were hardly able to remove.

Exhausted as they were by the hard and unusual labors of the day, sleeping only by snatches, they took watch and watch to care as best they might for their sick comrade. Suffering extremely themselves from the cold, they spared no efforts to give such personal services as might comfort and benefit him. Again and again they restored circulation to the frozen parts by chafing alternately with their naked hands and by the application of flannel wraps heated by their own bodies. Such a night seemed endless with its cares, its privations, and its anxieties, and unfortunately the continuing gale made it impossible to move when dawn came.

It was with great relief that they learned from the Dane that his cramps had nearly disappeared, after he had taken his breakfast of hot cocoa and soaked biscuit. This gave way to renewed anxiety when a few hours later Petersen was attacked by violent and recurring

fits of ague, which they hoped to dispel by wrapping him up closely in all the available robes and flannels.

Egerton no longer thought of going on to the *Discovery*, as it was now a question whether or not the Dane would perish before he could be got back to the *Alert*, less than twenty miles distant. While knowing that travel in such a gale would be fatal to one if not to all, it was certain that death would come to the Dane if they remained in the tent with a cold of fifty-six degrees below freezing.

Rawson and Egerton agreed that the only chance of prolonging life lay in building a snow house. Casting about they found conditions unfavorable for a regular hut, and so decided to burrow a refuge hole in a great snow-drift not far from their tent. First they sank a shaft six feet deep to a solid foundation, and thence under-cut a tunnel inward for some distance. At the end of it they hollowed out a space eight feet square and four feet high. This work was intermittently done, as from time to time they had to return to the terrible duty of thawing out and restoring circulation to the limbs of the freezing man. Within six hours, however, they had the shelter done and the Dane removed to it. Both tent and sledge were drawn over the passageways so as to keep the cold air out and the warmth from their bodies within. The cold being still intense, they ran the risk of asphyxiation to insure Petersen's comfort. Closing every crevice through which could come a breath of air, they lighted their cooking-lamp and thus raised the temperature to seven degrees above zero.

Fortunately such transpiration of fresh air took place through the snow as saved them from harm.

The day passed in this manner, small quantities of food being taken from time to time by the sick man only to be rejected later. Indeed, the only improvement in his condition seemed to come from those strong and dangerous, though effective, restoratives, rum and ammonia, and these were almost always followed by physical relapses. Answering repeatedly, to inquiries, that he was warm and comfortable, in making him ready for the night they found that his feet were perfectly gelid from the toes to the ankles and that his hands were nearly as benumbed.

Realizing that he was nearly in extremities, Egerton and Rawson renewed their devoted efforts. Each officer took a foot, stripped it naked, and set to work to warm it by rubbing it with their bare hands. When circulation was somewhat restored they applied flannels warmed against their bodies, and replaced them as the used pieces became too cold for service. The hands were similarly restored to warmth after two hours of steady work. When the limbs were wrapped up in thick, dry, and warm coverings they thought that the crisis was over.

During the night Egerton was awakened to find the Dane worse than ever. Quite delirious, he had crawled from his sleeping-bag, began to eat snow, and exposed his uncovered body to the cold. Ague fits attacked him, his breath came in short convulsive gasps, and circulation was almost entirely suspended, even in his

body. Then followed the same awful and tedious labor of thawing the man out and of guarding against a repetition of such irrational conduct.

With the coming morn the weather was found to be nearly calm, and to their great surprise the condition of Petersen was somewhat improved.

As it was certain death to remain where they were, Egerton decided to start on the journey to the *Alert*, seventeen miles distant. Though exceedingly feeble, Petersen thought that he could make the journey. Egerton promptly abandoned everything except tent, sleeping-gear, and food for a single day. Over the first part of the trail—most dangerous for a sledge and very rough—Petersen managed to walk under the stimulation of rum and ammonia. When he fell, prostrate and unconscious, on the icy road and could go no farther, he was put into a sleeping-bag, wrapped in warm robes, and lashed securely to the sledge.

The terrible conditions of the homeward journey must be imagined for they cannot well be described. Once the sledge was precipitated down a crevasse twenty-five feet deep, the sledge turning over and over three times in its descent, hurling the dogs in all directions. With beating hearts the officers scrambled down in haste to Petersen, expecting to find him badly injured, but almost miraculously he had escaped with a few bruises. At another point Egerton, who was driving, stopped the team to clear the harness, a frequent duty, as the antics of the dogs tie up in a sadly tangled knot the seal-thong traces by which the sledge

is hauled. With one of its occasional fits of uncontrol, the team started on the jump, and dragged the spirited Egerton, who held fast to the traces, a hundred yards through rough ice-masses before he could gain control.

Whenever a stop was made to clear harness or to pick a way through bad ice, the officers went through the slow and painful duty of thawing out Petersen's limbs. Save a brief stop for hot tea to give warmth to and quench the thirst of the invalid, they travelled ten hours, and when in the last stages of physical exhaustion had the inexpressible happiness of bringing their crippled comrade alive to the *Alert*.

With a generosity in keeping with his heroic conduct toward Petersen, Egerton ascribed his final success to Rawson's labors, for in his official report he says that high praise is due Lieutenant Rawson "for the great aid derived from his advice and help; without his unremitting exertions and cheerful spirit, my own efforts would have been unavailing to return to the ship with my patient alive."

In these hours of splendid devotion to their disabled comrade these young officers, absolutely disregarding personal considerations, displayed that contempt for external good which Emerson indicates as the true measure of every heroic act.

LIFE ON AN EAST GREENLAND ICE-PACK

LIFE ON AN EAST GREENLAND ICE-PACK

"And now there came both mist and snow,
And it grew wondrous cold:
And ice, mast-high, came floating by,
As green as emerald."

—COLERIDGE.

THE second German north polar expedition sailed under Captain Karl Koldewey in 1869, with the intention of landing on the coast of East Greenland, near Sabine Island, whence by winter sledging the explorations of the northern coasts of Greenland and of the north polar basin were to be undertaken. The two ships of the expedition, the *Germania* and the *Hansa*, reached by the middle of July the edge of the great ice-pack, which in enormous and generally impenetrable ice-masses streams southward from the Arctic Ocean between Greenland and Spitzbergen. As an accompaniment to this vast ice-field come from the glacier fiords of East Greenland most of the enormous icebergs which are sighted and encountered by transatlantic steamships off the banks of Newfoundland. The ships separating through misunderstanding of a signal, the *Germania*, a steam-ship, succeeded in working her way through the ice-stream to Sabine Island, where her crew carried out its programme. The *Hansa*, without steam-power, and so dependent on sails, became entangled in the pack in early August and was never

able to escape therefrom. The fate of the *Hansa* and the experiences of her crew form the subject-matter of this sketch.

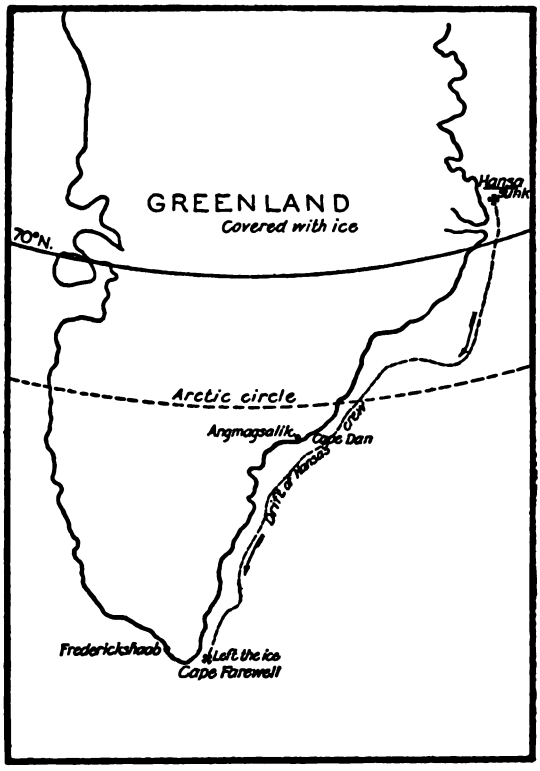
Until the *Hansa* was fast frozen in the pack, on September 9, Captain Hegemann was prepared for any emergency, whether the ship was crushed or if opening lanes of water should permit escape to Sabine Island from which they were only forty miles distant. Completely equipped and victualled boats were kept on deck so that they could be lowered to the ice at any moment.

When the ship was frozen in the captain faced resourcefully the serious question of wintering in the pack. It was known to him that no ship had ever escaped from such wintering in the drifting ice-pack of the Greenland Sea, and indeed the violent and frequently recurring pressures of the ice-field pointed to the early loss of their ship. Life might be possible, but health and comfort could not be had in boats covered with canvas. Cramped quarters, severe cold, damp bedding, and absence of facilities for cooking forbade such an attempt. While others suggested the snow houses of the Eskimo, one fertile mind urged that a living-house be built of coal, which was done.

Fortunately the coal supply was in the form of briquets, coal tiles nine inches broad, quite like ordinary bricks in shape. Thus went up the most remarkable construction in the annals of polar history, a house of coal on a foundation of ice. The *Hansa* was moored

"WHEN THE SHIP WAS FROZEN IN THE CAPTAIN FACED THE SERIOUS QUESTION OF WINTERING IN THE PACK."

to one of the so-called paleocrystic floe-bergs several square miles in extent, nearly fifty feet thick, with fresh-water ponds and an uplifted central mass thirty-



Southeastern Greenland.

nine feet high, near which hill the coal house was built to insure its safety. With water from the pools to pour on the finely powdered snow, the arctic masons had a cement that quickly bound together the tiles as

they were laid in courses. The ship's spars were laid crossways for the main rafters, and other wood was used for the completion of the roof-frame, over which were stretched reed mattings and sail-cloth. Coal tiles made a level and convenient floor, whence in case of necessity they might draw for fuel in the late winter. With a double door and provision caches in the house they awaited the action of the pack, still comfortable in the ship's cabins.

With joy the hunters learned that the ice-field was not wholly desolate, but that it was the hunting-field of the polar bear, who was followed by the arctic fox, who deftly snapped up under bruin's very nose any outlying bit of seal that was within reach.

In the early days, before the pack had become an unbroken ice-mass, a hunter espied on an adjacent floe a large she bear with her cub. A boat was quickly put off to cross the narrow water-lane, when to the surprise of every one the old bear, followed by the cub, rushed forward to meet them at the edge of the floe, gnashing her teeth and licking her chops, clearly unfamiliar with man and his weapons and anxious for a meal. As they fired the bear fell dead on the snow, but the cub instead of running remained by her side licking and caressing her mother in the most affectionate manner. She paid no attention at first to the advancing hunters, save to alertly elude the many efforts to cast a noose over her head. Finally the cub became alarmed, and with piteous howlings ran away, escaping over the rugged pack despite a shot which wounded her.

In the middle of October came a series of violent blizzards which foretold the coming fate of the ship. The groaning, grinding ice-field was breaking up under enormous pressures that came from the colliding floebergs, which were revolving under various forces of wind and sea currents. Though trembling violently, with her masts swaying to and fro, the *Hansa* was spared, great fissures in the floe near by showing how close was her escape. All of the crew were busy preparing for the worst, fuel, food, and clothing being carried in quantities to the house.

The end came on October 19 within four miles of the East Greenland coast, when a gale sprang up and the collision of the fast ice of the shore and the moving sea-pack had already increased the ice-pressures with fearful results. Mighty blocks of granite-like ice shoving under the bow of the ship raised it seventeen feet above its former position in the ice, while the after part of the *Hansa* was frozen in so tightly or jammed so badly that it could not rise, under which conditions it was certain that the stern would be racked and strained beyond service.

The dangerous situation was dramatic in the extreme. With the dying wind the sky cleared, the stars shone with keen brilliancy, the cold increased sharply to forty-five degrees below the freezing-point, while, as if in mockery of man's sorrows, the merry dancers flashed upward in dagger-shaped gleams wavering an instant and then vanishing, only to come again in new forms with ever-changing colors. To a mere observer it would

have been a perfect picture of adverse arctic conditions, wonderful in its aspects and surpassingly beautiful to an artistic eye.

With relaxing pressures the great ice-ridges slowly decreasing in height fell apart, and the ship was again on her usual level, but rent fatally and making water fast. In vain did the whole crew strain at the pumps, while the outpouring water from the spouts froze on the deck as it fell—the water gained steadily and orders to save the cargo were given. The worn-out men worked frantically, dragging out bedding, food, clothing, medicines, guns, ammunition, sledges, boat furniture, and everything that could be of service for life on the floe. Best of all, for their comfort and amusement, they hoisted over the rail of the ship's galley heating-stoves, games, and books; they felled the masts for fuel and stripped the sails for house use. Fortunately the energetic seamen were able to strip the ship of all useful articles before she sank on October 22, 1869, in 70° 52′ north latitude, a few miles from the Greenland coast.

They now faced a situation of extraordinary if not of imminent peril. It was barely possible that they might reach the coast, six miles distant, but that was to face starvation, as everything must be abandoned for a cross-floe march. If the shore was reached it was well known to be ice-clad and desolate, as there were to be found neither natives nor land game along the narrow strips of rocky, ice-free beach which stretches from sea-glacier to sea-glacier on this seemingly accursed coast.

The only chances of life were in the shifting and uncertain forces of nature—a cold winter to keep the ice-field intact, a stormless season to save their floe from breaking up under pressures, and the usual Greenland current to set them to the south. With good fortune they might hope to get into open water seven months hence, when by their boats they could possibly reach the Danish settlements of West Greenland. But could they live seven months through a winter barely begun? At least they would do their best. They were fourteen men, all good and true, in health, skilled to the sea, inured to hardships and privations, accustomed to discipline, and inspired by a spirit of comradeship.

Their floe had been wasted at its edges by the enormous pressure, as well as by the action of the sea, so that they were thankful for Hegemann's foresight in placing the coal house remote from the ocean. All that sailor ingenuity could plan was now done to make life healthy and comfortable in their ark of safety. Outer snow walls were erected so that there was a free walk around the main house, giving also a place for the protection of stores against storms and shelter for daily exercise. From their flag-staff was displayed on fine days a flag, emblem of their love for their country, of their faith in themselves, and of aspiration and uplifting courage in hours of danger.

The hunt engaged their activities whenever signs of game were noted. Once a bear and her cub came from the land, and the mother was slain and added to their larder. An effort was made to keep the cub as a kind

of pet. After a while she escaped and was caught swimming across a narrow lane of water. To keep her secure they fastened her to an ice-anchor, where she was at first very much frightened, but later she ate with avidity such meat as was thrown to her. To add to her comfort a snow house was built, with the floor strewed with shavings for her bed, but the record runs: "The young bear, as a genuine inhabitant of the arctic seas, despised the hut and bed, preferring to camp in the snow." Some days later she disappeared, and with the heavy chain doubtless sank to the bottom of the sea.

Nor were these castaways unmindful of the charms of arctic nature. Their narratives tell us of the common beauties around them—the snow-crystals glittering in the few hours of sunlight like millions of tiny diamonds. Night scenes were even more impressive, through wondrous views of the starry constellations and the recurring and evanescent gleams of the mystical aurora. Under the weird auroral light the white snow took at times a peculiar greenish tint, and with it, says an officer, "One could read the finest writing without trouble. One night it shone so intensely that the starlight waned and objects on our field cast shadows." But in its main aspects life on the ice-pack was full of dread in which nervous anxiety largely entered.

The barren peaks and rounded snow-capped land masses of the Greenland coast were usually in sight, and once they were astonished as they walked to see thousands of tiny leaves, possibly of the arctic willow, flying about them, signs of a snow-free fiord not far dis-

tant. Again the newly fallen snow for a considerable distance was covered with a reddish matter which Dr. Laube thought must be of volcanic origin carried through the air from Iceland two hundred miles away.

Of interest to the party were the visits of foxes, who came from the near-by land. Of the first it is said: "With tails high in air they shot over the ice-field like small craft sailing before the wind. For the first moment it seemed as if the wind had caught up a couple of large semicircles of whitish yellow paper and was wafting them along." One was shot as a specimen, but the later visitor in the middle of December was better treated. We are told that "the fox, white with a black-tipped tail, was particularly confiding, even bold. He scratched up the bear flesh buried in the snow, and carried it off to eat as we approached. He then quite unconcernedly took a walk on the roof of our house, and through the small window convinced himself as to what we were doing. Should we shoot it? No! It was a long time since we had seen such a fearless creature. At times we placed nets with a meat bait to tease him, but he always managed to get clear of them."

Meanwhile their coal house with the floe was drifting south slowly, with the coast of Greenland in plain sight, distant from five to fifteen miles. Their safety, always the subject of daily talk, seemed assured until the coming spring, for they were on an immense floe-berg whose area of about four square miles was dotted with hills and vales, while sweet-water lakes gave abundant

water for drinking and cooking, a great boon. It was known that surrounding floes were daily grinding huge pieces of ice from the edge of their own, and that the ice-pressures were steadily turning it around, so that one week they saw the rising sun from their single window and the week following noted the setting sun therefrom. At first this floe rotation was completed in twelve days, but later, with reduced size, stronger currents, and high winds, the floe-berg made a full rotation in four days.

At times there were welcome additions to their slim larder of fresh meat. One day a seaman rushed in breathless to say that he was sure there was a walrus near by. All were instantly astir, and soon a walrus was located, a black spot on the clear white of an adjoining floe. With great celerity and caution the whaleboat was launched in the intervening lane of open water, and with notable skill the steersman, Hildebrant, manœuvred the boat within rifle range without disturbing the rest of the sleeping animal. The first shot wounded the walrus so badly that he could move away but slowly. On the approach of the hunters he struggled with great fury, breaking through the young ice and attempting to strike down the hunters as they approached to give him his death wound.

Covered with hide an inch thick, the walrus was so colossal that it took the united strength of ten men, using a powerful pulley, to raise the carcass from the water to the main ice. Under the outer hide was a layer of fat three inches thick, which was almost as

acceptable for fuel as was the meat for food to men who had for so long a time been confined to salt and canned meats as their principal diet.

The odor of the burning walrus fat seemed to attract bears from long distances. One inquisitive bruin, sniffing at the meat in one of the boats, fell through the tightly stretched canvas covering, and scrambling out growled at the night light by the outer door of the house and passed on safely. A second animal was wounded but escaped. The third, whose acute hunger brought him one dark night to the house in search of the odorous walrus fat, was received with a volley and was found dead the next morning.

The quiet Christmas holidays, celebrated with German earnestness, had brought to their hearts an unusual sense of confidence, peace, and hope, based on their providential preservation, excellent health, and physical comfort. This confidence was soon rudely dispelled, giving way to deep anxiety at the devastation wrought by a frightful blizzard that burst on them with the opening new year.

Then the crew realized that there was a possible danger of perishing in the pack, since at any time their immense floe-berg might break into countless pieces in the very midst of the polar cold and the winter darkness. With the violent wind arose an awful groaning of the ice-pack, due to the tremendous pressures of the surging ocean beneath and of the crowding floes around. So violent were the movements of the floe itself, and so great the noise of crashing bergs, that

they feared to longer remain in the coal house, and in terror of their lives they sought refuge in the open. Although the snow-filled air made it impossible for any one to see a dozen yards, yet at least there was a chance to escape if the floe split under their feet, which was felt to be possible at any moment. They made ready for the worst, though escape from death seemed quite hopeless. Rolling up their fur sleeping-bags and clothing, they filled their knapsacks with food. Forming a human chain they ran safety lines from the house to the several boats, well knowing that in the blinding blizzard one could not otherwise find his way to the boat to which each one had been told off for the final emergency. They then set a watch of two men to note events, and, intrusting their souls to God, the rest of the party crawled into their sleeping-bags for such needed rest and for such possible sleep as might come to the most stolid.

When the gale broke two days later they found that they had escaped death as by miracle. Three-fourths of this seemingly stable floe had disappeared, broken into huge, shapeless masses. Barely a square mile of the floe remained intact, with the coal house perilously near the edge instead of in the centre.

Scarcely had order and comfort been restored, when ten days later an even more furious blizzard burst upon them, actually bringing them face to face with death. In the middle of the night the watch cried out loudly, "All hands turn out!" With their furs and knapsacks now kept ready for instant action, they rushed out and

stood in place, each by his allotted boat. The hurricane wind made movement most difficult, snow filled the air, their floe was quivering from awful pressures, while the howling gale and groaning ice-pack made a deafening tumult. Nothing could be done but to stand and wait!

Suddenly the captain cried out, "Water is making on the next floe!" An adjoining floe-berg of great size and thickness had split into countless pieces, and where a moment before had been a solid ice surface was a high sea tossing broken ice-masses. Huge pieces of their own berg now broke off, due to the action of the sea and to collision with the crowding pack. While looking with a feeling of despair at the high waves, now gnawing at and rapidly wasting the edges of their floe, they were greatly alarmed to hear a loud, sharp report as of a cannon-shot. Before any one could stir, even had he known where to go, their floe burst with a fearful sound midway between the coal house and the wood-pile. Within a dozen yards of the house now appeared a huge chasm, quickly filled with huge waves which tossed to and fro great ice-blocks which beat against the floe remnant on which the dismayed men stood. Though all seemed lost the crew without exception acted with courage and celerity. By prompt work they dragged up on the sound ice the whale-boat which barely escaped dropping into the sea. Aware that they could not launch and handle in such a storm the largest of their boats, Hegemann told off the men to the two small boats. In the pandemonium death was thought to be close at hand. With this thought they gave a last

handshake to each other and said a final farewell as they separated and went to their alloted stations by the boats. The physical conditions were so utterly wretched that some even said that death would be welcome. The roaring of the pack was unceasing, the hurricane-like winds continued, while the temperature was forty-two degrees below freezing. The sharp, cutting snow-pellets of the blizzard not only blinded the vision, but the clothes were saturated with the sand-like ice particles driven through the fur to their very skin, where they were melted by the heat of the body. Food was not to be thought of, save a bit of biscuit which was eaten as they stood.

For ten hours they stood fast by their boats in shivering misery and in mental anxiety, knowing that any moment they might be thrown into the sea. But by God's protection, in a providential manner, after being reduced to a diameter of one hundred and fifty feet their floe held together.

The dangers of the sea and of the ordinary pack had still another and novel phase. When matters seemed to be at their worst the watch cried out: "We are drifting on a high iceberg!" They stood immovable as the lofty berg loomed far above their heads, close on them, and after hanging a ghastly object over their tiny floe for a moment vanished in the mist while their hearts were yet in their mouths.

They had barely gathered together and arranged their few remaining effects when another frightful storm came upon them. While there were ice-movements

around them all went to sleep except the watch, when with a thundering sound their quivering floe broke in two, a broad fissure passing through the floor of the house. Captain Hegemann says: "God only knows how it happened that in our flight into the open none came to harm. In the most fearful weather we all stood roofless on the ice, waiting for the daylight which was still ten hours off. As it became quieter some crept into the captain's boat. Sleep was not to be thought of; it was a confused, unquiet half-slumber, from utter weariness, and our limbs quivered convulsively from cold (it was forty-one degrees below freezing) as we lay packed like herrings in our furs."

With a heroic devotion to duty the energetic cook had the courage to make coffee in the shattered house, on the very edge of the gaping ice-chasm that ran down into the sea. Hegemann says: "Never had the delicious drink awakened more creatures to life." This cook was a notable character, never discomposed, but invariably self-possessed even in the most critical moments. While the shattered coal house seemed in danger of falling into the sea he was busy repairing a kettle. When the captain suggested that he leave the house owing to the peril, he said: "If only the floe would hold together until I finish the kettle, then I can make tea so that you all may have something warm before you enter the boats." No pains or trouble was too great for him when the comfort of his shipmates was in question.

The poor doctor of the expedition did not have the

iron nerves of the cook, and under the influence of constantly recurring dangers he developed melancholia, which lasted to the end. Of the crew in general captain Hegemann says: "Throughout all of the discomforts, want, hardships, and dangers of all kinds the frame of mind among the men was good, undaunted, and exalting."

All denied themselves to give comfort and to show consideration to the afflicted doctor.

At a gloomy period there came to them amusement and distraction through the visit of a frisky fox from the main-land, who remained with them many days. With growing boldness he came up quickly without signs of fear when bits of meat were thrown to him from the cook's galley. His gay antics and cunning ways were the source of much fun. Finally he became so tame that he even let the men he knew best stroke his snow-white fur.

On May 7, 1870, they were near Cape Farewell, the southerly point of Greenland, where they expected to quit the ice-field. It was now two hundred days since their besetment, and they had drifted more than six hundred miles, with all in health save the doctor. Snow had now given place to rain, the pack was rapidly dissolving, and at the first opening of the ice toward land they left their old floe and faced in their three boats the perils of an ice-filled sea. Afflicted by snow-blindness, worn out by strenuous, unceasing labor, storm-beset at times, encompassed by closely packed broken ice—through which the boats could not be

rowed or pushed and over which man could not travel —they at last reached Illuidlek Island. The voyage at starting was supposed to involve four days of navigation, but it took twenty-four days to make it.

Now food became scarce for the first time, neither seals nor bears being killed, so that they were always hungry. Hegemann writes: "Talk turns on nothing but eating. Konrad was quite sad this morning; in his sleep he had consumed ham and poached eggs, one after another, but on waking felt so dreadfully hollow within."

Threatened by a closing pack they hauled up, with great difficulty, their boats on a large floe. They found a low shelving edge of the ice and emptied the large boat of its contents. Rocking the boat backward and forward, head on, when it had gained a free motion, the whole crew hauled together on the painter when the boatswain cried loudy: "Pull all!" When the bow caught the edge of the ice the boat could in time be worked gradually up on the floe, but it was a heart-breaking, exhausting, prolonged labor.

Storm-bound for four days, they resorted to various devices to pass the time and divert their minds from hunger. The loquacious carpenter spun old-time sea yarns, Vegesack tales of astounding character. In one story he related his experiences as captain of a gun-boat when, having no sailing directions for the North Sea, he steered by the help of a chart of the Mediterranean from Bremen to Hull. When he arrived off Hull he verified his position exactly by a sounding,

which proved conclusively that he was at Ramsgate, south of the Thames. Thus did folly beguile misery.

Cut off from land by closely packed ice, they finally made the journey practically on foot, carrying their food and baggage on their backs. The boats were dragged one at a time through soft snow and across icy chasms. This task left them in a state of utter exhaustion, even the captain fainting from continued overwork.

From Illuidlek their voyage was easy to the Moravian missionary colony at Friedrichshaab, West Greenland, where comfort and safety were again theirs. Thus ended this wondrous voyage, which quiet heroism, complete comradeship, and full devotion to duty make one of the most striking in the annals of arctic service.

PARR'S LONELY MARCH FROM THE GREAT FROZEN SEA

PARR'S LONELY MARCH FROM THE GREAT FROZEN SEA

Those grim fields which lie silent as night and uninhabited, and where no sound of human voice breaks the repose, where no dead are buried and where none can rise.
—KLOPSTOCK.

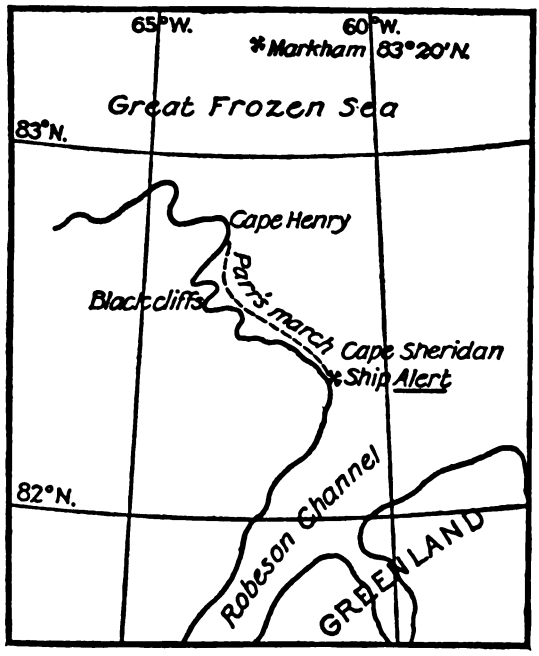
CENTURIES of efforts to attain the north pole, under the auspices of the government of Great Britain, had their final culmination in the arctic expedition of 1875–6. The squadron was commanded by Captain Sir George Nares, R.N., of *Challenger* fame, whose flag-ship, the *Alert*, wintered at Floeberg Beach, exposed to the full force of the mighty pack of the frozen Arctic Ocean. Of the many sledge journeys made with the *Alert* as the base of operations, the most important was naturally expected to accomplish the main object of the expedition. It was commanded by Commander Albert H. Markham, R.N., who with three man-sledges, two boats, and seventeen men all told marched directly northward over the hummocky surface of the Great Frozen Sea in an effort to reach the north pole. By most strenuous labors and heroic persistency Markham reached on the surface of the ice-covered sea latitude 83° 20′ N., a point nearer the north pole than had ever before been attained by man.

This tale sets forth the lamentable experiences of

Markham's homeward march, and particularly the vitally important and heroic journey of Lieutenant A. A. C. Parr, R.N., which saved the lives of his slowly perishing comrades.

The northward sledge journey over the floes of the frozen sea, though conducted by brave and experienced officers with selected men, was made under unusual physical disadvantages which made impossible any further success than was actually accomplished. The party was encumbered with heavy boats, which were carried as a precautionary measure through fear lest the main polar pack might be disrupted during their journey. The sledges were fearfully overloaded, for while their burdens of two hundred pounds per man might be hauled short distances over good ice, the later conditions of four hundred pounds (three sledges with two crews) per man, in deep snow and through rough ice, was simply impossible. The extreme roughness of the ice of the Arctic Ocean was beyond expectation or earlier experience. Finally it developed on the march that the health and strength of the men were impaired by attacks of incipient and unsuspected scurvy. So it happened that when only thirteen days out from the ship a scurvy-stricken man had to be hauled on the already overloaded sledge. With true British grit Markham went ahead, but four days later, in order to spare the strength of his men, who were daily falling out of the traces, he decided to take the chances of pack-disruption and so abandoned one of his boats.

It is not needful to give the details of the outward journey, which involved the abject misery of scarified faces, frost-hardened fingers, capsizing sledges, deep snows, and extreme cold to which most arctic sledge-



Great Frozen Sea and Robeson Channel.

men are subjected. To these were added road-making, owing to the mazes of high hummocks with deep intervening valleys. The increase of loads, so that progress could be made only by standing-pulls, was bad enough, but this disability was enhanced by the steady decrease of the number of sledgemen, by the necessity of hauling

disabled men, and by the nursing care of patients steadily growing worse and unable to do anything for themselves.

Under such conditions Markham added to the glory of the British Navy by displaying the flag of his country on May 12, 1876, in 83° 20′ N., thus establishing a world's record. As five of his seventeen men were then unable even to walk, his venturesome courage in this journey could not be surpassed. Certainly Commander Markham pushed to the extreme limit compliance with his assertive sledge motto: "I dare do all that becomes a man. Who dares do more is none."

Amidst the glory and happiness of this notable day, there could not fail to arise in the minds of all, especially of Markham and his efficient aid, Lieutenant Parr, unbidden forebodings as to the homeward march. Was it not possible that their distressing conditions were a prelude to disaster? Would they all reach the ship? At all events they would do all that was in their power.

The seriousness of the situation was soon evident. In five days' travel, though inspired to greater efforts by the fact that they were homeward bound, they averaged only one and a half miles daily, at which rate it would take fifty days of uninterrupted sledging to reach the *Alert*. The sledge work was simply appalling, almost heart-breaking. It took the whole force to advance the largest of the three sledges, and the necessary return for the smaller sledges tripled the distance of the original march. In addition the windings of the road

"THEY AVERAGED ONLY ONE AND A HALF MILES DAILY."

to avoid bad ice so increased the length of the route that they were travelling five miles for each mile made good toward the ship.

Meantime the health and the strength of the men steadily decreased, and, most alarming symptoms of all, the appetites of the sledgemen began to fail. Markham's field journal briefly tells the harrowing tale: "With great difficulty can the patients be persuaded to eat anything. Mouths are too tender for well-soaked biscuit, and stomachs rebel against pemmican and fat bacon. . . . Unquenchable thirst, alleviated at meals only for lack of fuel to melt ice. . . . Invalids very weak and much subject to fainting fits. So utterly helpless and prostrate are they that they have to be assisted in every detail by two and sometimes four of their companions. . . . Tea-leaves are devoured with avidity by the majority. . . . The men find great difficulty in moving their legs, and are in great pain. . . . All are so stiff that the slightest exertion causes great suffering. . . . Out of thirty-four legs in the party we can only muster eleven good ones. . . . Every hour is important, as we know not when we may all be attacked and rendered useless."

When in this condition they were storm-stayed for thirty-six hours by a violent blizzard, when one could not see a sledge's length ahead. This brought matters to a crisis, and to hasten the march Markham was obliged to abandon his last boat and all stores that could be spared, ammunition, one hundred and seventy pounds of pemmican, and much camp gear. It

was indeed time, for only four of the men were entirely well.

A pleasurable incident made happy for a moment these distressed sailors, sick, worn out, surrounded by an illimitable expanse of ice. Markham records: "The appearance of a little snow-bunting, which fluttered around us for a short time, uttering to us its rather sweet chirp. This was an event of no small interest to our party, as it was the first bird seen by the majority for a period of nine months. Even the sick men on the sledge requested they might have their heads uncovered and lifted so as to obtain a glimpse of the little warbler."

Conditions steadily changed from bad to worse, and on June 2 the sledge party was simply a band of cripples. Five helpless invalids were in their sleeping-bags on the sledge, four others were barely able to crawl along, leaving only six men and two officers to drag their sick comrades and the heavily loaded sledge.

On June 5 they camped on land, about seven miles south of Cape Joseph Henry, and were cheered and encouraged by having a meal of fresh hare, which had been thoughtfully cached for them by a travelling party. Unfortunately they came to the shore a day too late, for on visiting the depot Markham learned from a note "to our disappointment that Captain Nares, May, and Fielden had only left for the ship the previous day. This was very unfortunate."

Although temporarily braced up by fresh meat and by delicacies from the depot, the party reached its

effective end the following day, June 6. Five invalids were on the sledge, four others had to lie down on the snow and rest every thirty or forty yards, and a tenth man was quite near the end, while the party had wandered a distance from the road.

Markham fully realized the critical situation of the party and writes: "So rapid had been the encroachments of the disease that it was only too palpable that immediate succor was necessary for our salvation. At the rate of progress we were making, it would take us fully three weeks to reach the ship, although only forty miles distant; and who would there be left in three weeks' time? The few who were still strong enough to drag the sledges would barely last as many days!"

In his field journal he records on June 6: "After a long consultation with Parr it has been resolved that he shall proceed to-morrow morning, if fine, and walk to the ship. Our only chance of saving life is by receiving succor as soon as possible. Although the distance from us to the ship is nearly forty miles, over floes covered with deep snow and girt with heavy hummocks, he has nobly volunteered to attempt it, and has confidence in his being able to accomplish it. He is the only one of the party strong enough to undertake such a march."

Parr knew the strain that such a dangerous and difficult journey involved, so he arranged his equipment and laid his plans accordingly. As lightly outfitted as was safe, he started at ten o'clock in the evening, wisely avoiding the disadvantages of day travel. The night

gave him the needed lower temperatures with firmer snow-crust, and avoided the snow-blinding sun-glare, as the course was to the south which brought the midnight sun on the traveller's back and so spared his eyes, while more clearly disclosing the irregularities of the ice.

Most fortunately there was no wind, the weather was fine, the air so clear that to the westward stood sharply outlined the coast of Grant Land along which the heroic officer had often travelled during the past year. This enabled him to keep a straight course, and saved him from the dangers of straying to which one is liable in thick or stormy weather when travel must be slowly made by careful compass bearings. He took with him food for a single day only, with a small spirit lamp so that in extreme need he could start a fire, melt ice for drinking-water, or warm a scanty meal. With his belt well pulled up, his foot-gear carefully and not too tightly adjusted, ice-chisel in hand and snow-goggles over his eyes, he said "Good-by," and started amid the answering "God-speeds" of his comrades, which long re-echoed in his ears as so many appeals for aid and stimulants to action.

Two routes were open to him to the *Alert*. Possibly the safer way in the advanced stage of oncoming summer, but certainly a much longer route, lay along the ice-foot of the coast, which from the next headland made a long détour to the westward around Marco Polo Bay. The shorter air-line route was across the sea ice, now fast decaying under the summer sun, with the certainty of many air-holes and possible pitfalls where tides and

pressure, sun and currents had broken and wasted the winter floe. Confident in his keenness of vision and in his familiarity with sea ice, he took the shorter air-line route, though its rough rubble-ice and shattered hummock-masses were sure to make greater demands on his physical strength and to require vigilance to avoid accidents.

On and on, mile after mile, hour upon hour, he marched slowly but steadily onward, stumbling often and halting only when road conditions demanded. Now and then the loose rubble-ice separated under his feet, leaving him uncertain footing, and again huge pressure-ridges or converging hummocks obliged the weary man to carefully seek a safe way through their tangled, confused masses. The greatest danger was that of breaking through thin ice, and when he came to some attractive piece of new smooth ice, deceptively promising fast and easy travel, it was his rule to carefully test its strength and thickness with his ice-chisel before venturing to cross it. It was not that his life should be lost, but that he carried with him the gift of life or the message of death to others.

Now and then he staggered and there came over him a sense of growing weariness, but the thought of his helpless, dying comrades on the Great Frozen Sea behind him, and of the eager, willing hearts in the ship before him, steeled his nerves, inspired anew his heart, and gave fiery energy to his flagging strength and failing body.

For an hour or two as he marched there arose faint

doubts as to the wisdom of his cross-sea route, for it was a period of strong tides which in their onward sweep from the northern Arctic Ocean warped and twisted the mighty ice-covering, whose total disruption was certain at the first violent gale, it being stayed now only by the almost immovable floes of enormous thickness crowded against the bordering lands.

Wearisome and monotonous in the extreme had the main pack become to Parr after steady travel thereon for more than two months, especially during the brief periods of calm weather when the curling wreaths and trailing streamers of the almost constantly drifting snow were absent, leaving the scene unrelieved in its almost hideous desolation. But then at least he was free from the nervous tension that now came with the loud groans, the feeble mutterings, the rasping grindings of floes, and the loud explosions that mark the surface changes of the pack from heavy tidal action. Especially the fear of a fog-covered floe came to his mind, as vaporous forms like water-spirits rose here and there from fissures forming in the cracking floes. Would the dreaded fog envelop the pack? If so, what were his chances of reaching the *Alert?* And what fate would the fog bring to the field party?

The uneasy, trembling ice-pack in thus forcing on him a realization of its presence through motion under his feet recalled inevitably the vision of the Great Frozen Sea, which if it had insured world-wide fame to his faithful sledge-mates had also brought death so near to them.

It was therefore with an overwhelming sense of relief that he clambered up the overtowering ice-foot at Depot Point and once more placed his foot on firm ground.

Ascending the hill he scanned the horizon and was relieved to note that a breath of southern wind was carrying the fog to the north, while the floes toward the ship were entirely clear.*

Behind him lay Marco Polo Bay, while before him was the seemingly boundless and illimitable expanse of the great polar pack. Ample food dainties in the cache at his feet invited refreshment, while physical exhaustion, from rough, steady travel, demanded rest and sleep. Either need would have here stayed a man of less heroic stamp than Parr, but he paused not to eat a bit of food, to drink a cup of tea, nor to take the brief rest that his tired muscles so sadly needed.

A short distance beyond he scrambled down over the precipitous ice-foot to the chaotic, pressure-ridged ice-masses of Black Cliffs Bay, and fixed his course in a bee-line to the farthest cape, Harley Spit to the southeast. He could not later recall the awful trials of that cross-bay travel. With failing strength and exhausted body, to his confused mind the furlongs seemed to lengthen out to miles and the hours were of interminable duration. With his great and splendid vitality almost

* The clearing of the fog was providential for the invalids. Markham records at that time: "Our usual weather overtook us, and the land was entirely concealed by the fog. This increases our anxiety about Parr." The solidarity and altruism of the party is shown by the anxiety not for themselves but for others.

utterly spent, he reached the cape after nine hours of utmost effort.

A short mile along the ice-foot brought in sight a standing tent which stirred his heart with visions of expectant comrades from the ship with God-sent aid. Hastening his lagging steps as best he could, he reached the tent and raised the flap. Alas! it was empty, and for the moment he was overcome with bitter and disheartening disappointment. Would aid ever come or help be obtained?

With the mental reaction he became conscious of his fearfully exhausted condition and knew that he could go no farther without rest and drink. He lighted his tiny spirit lamp, filled the pot with fresh snow, unrolled a sleeping-bag and crept into it for warmth and rest. In time, all too short it was to the worn-out man, the kettle sang its usually welcome song of steam. Then came the tea—strong and almost boiling it stirred his blood, cheered his heart, and gave vigor to his wearied body; he needed none for his unfailing courage. On rising he found that his legs were so stiff that he could barely place one before the other, but with a great effort of will he was soon able to reach the floe and to go on toward Cape Sheridan, beyond which at a short distance lay the *Alert*, and safety.

Pressing onward steadily, though with decreasing speed, from hour to hour he hoped against hope to meet some sailor comrade from the ship—either hunters seeking game or officers taking their daily exercise. Time and again a black speck on the floe took the

mocking semblance of a man to his longing eyes, only to fade into an inanimate shape. Time and again, as he stumbled or staggered, it seemed as though he would fail, so feeble had the body become and so forceless his will-power. Could he reach the ship? Would help come in time for the dying men behind? Most fearful of all, was the *Alert* still there? Exposed to the full force of the Arctic Ocean, had she suffered shipwreck or was she unharmed? If safe, why did no one come?

At last he was at Cape Sheridan, and oh! happiness, there against the southern sky were outlined the bare spars and the covered deck of the long-sought *Alert*. She was but a few miles away, yet in his enfeebled state she seemed to recede rather than to advance as he dragged himself along.

But everything has its end, and in six of his weariest hours Parr reached the ship, strangely enough without being seen. Striding silently across the deck, nodding only to the officer on watch, he nervously knocked on the panels of Captain Nares's cabin. The door swung open at once and for a few seconds the captain stared vaguely at his subordinate. So solemn was Parr's look, so soiled his garb, so weary his expression, and so travel-stained was his person that Sir George at first failed to recognize him.

Meanwhile matters had steadily gone from bad to worse with Markham and his men. On the day following Parr's departure, Gunner George Porter, who had been sick seven weeks with suspected scurvy, was taken

with retching, with recurring spasms and stertorous breathing, which ended in his death. Regard for the safety of the living did not permit of carrying him farther, and he was buried on the floe, in a deep snow-drift near the camp. At the head of his grave was placed a cross improvised from the oar of a boat and a sledge batten.

The day following the death of Porter only five of the fourteen men were able to enter the sledge harness, so that Commander Markham had to make the needful sixth sledgeman to move the party forward. The next day two other men failed utterly, immediately before the arrival of the relief party from the *Alert*—promptly despatched as a result of Parr's heroic journey. Before reaching the ship there remained only three of Markham's original fifteen men who were not dragged on the relief sledges, unable to walk.

Heroic as was the dauntless spirit that spurred Parr to the journey which saved the lives of several of his field comrades, it was well matched by his indomitable will and by his powers of physical endurance. By the route traversed Parr marched over forty miles, which under any conditions would have been a remarkable achievement, without extended break or rest, over the rough surface of the Great Frozen Sea, whose broken, disjointed ice-masses present difficulties of travel to an almost incredible degree.

Not only was Parr's march practically unbroken, but it was made in less than twenty-three hours, a somewhat shorter time than was taken by Dr. Moss

and Lieutenant May with a fresh dog team "on a forced march" for the relief of the party.

Parr's conduct after his most heroic actions was thoroughly modest and unassuming. In the field and later at home his life appears to have been an exemplification of his sledge motto during the northern journeys, of *Faire sans dire* (To do and not to talk).

In recalling the past and glorious deeds of British seamen in arctic work during the past century, looking to the future one may ask with Drayton:

> "O, when again shall Englishmen
> With such acts fill a pen?"

RELIEF OF AMERICAN WHALERS AT POINT BARROW

RELIEF OF AMERICAN WHALERS AT POINT BARROW

"Nothing is here for tears, nothing to wail
Or knock the breast; no weakness, no contempt,
Dispraise or blame: nothing but well and fair."
—MILTON.

AFTER a long and dangerous besetment in the polar ice to the north of Bering Strait, the American whaling-ship *Navrach* was abandoned August 14, 1897. Twenty-one of her seamen perished on the moving ice-pack of the Arctic Ocean in their efforts to reach land across the drifting ice. Captain Whitesides with his brave wife and six of the crew intrusted their fortunes to the sea, and almost miraculously escaped by using a canvas boat, which was alternately hauled across the floes and launched where open water was reached. On landing at Copper Island, off the coast of Asia, the party was in danger of death through starvation when rescued by the United States revenue-cutter *Bear*, which chanced to touch at that point. The news of the loss of the *Navrach* and the reports of very bad ice conditions in the Arctic Ocean created great alarm in the United States, owing to the fact that no less than eight whale-ships with crews of two hundred and sixty-five men were missing that autumn. Appeals for prompt aid were made to the President of the United States by the members of the

chamber of commerce of San Francisco and by other interested persons. Refitting in three weeks' time, the United States revenue-cutter *Bear*, manned by volunteers under Captain Francis Tuttle, R.C.S., sailed from Seattle on November 27, 1897, and wintered at Unalaska. The story of the relief of the whalers, happily and heroically accomplished by this expedition, forms the substance of this sketch.

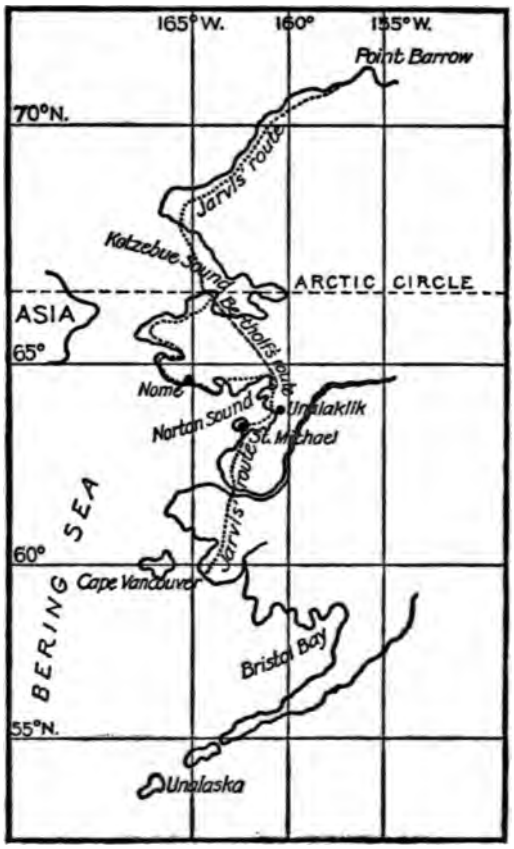
From the character of the duties of the revenue-cutter service its officers and men are not favored with such frequent opportunities for adventurous deeds as are those of the army and of the navy, but whenever occasion has arisen they have ever shown those qualities of courage, self-sacrifice, and devotion which go far to inspire heroic action.

As the period of navigation had already passed for the northern seas, the *Bear* was to winter at Dutch Harbor, Unalaska, communicating with the distressed seamen by an overland expedition, which should aid and encourage them until the spring navigation should make their rescue possible. If practicable the land party was to be set ashore on the north side of Norton Sound, near Cape Nome, which would require some eight hundred miles of sledge travel at the least.

From the eager volunteers for this arduous and novel service, Captain Tuttle approved of Lieutenant D. H. Jarvis, commanding, Lieutenant E. P. Bertholf, and Dr. S. J. McCall, with a reindeer driver, Koltchoff.

With dauntless courage and skill Captain Tuttle

skirted the growing ice-fields of Bering Sea, seeking in vain a lead through which he could reach Norton Sound,



Northwestern Alaska.

but it was finally clear that the ship could not be put north of Nunavak Island without danger of her loss as well as sealing the fate of the whalers. The winter

darkness, storm conditions, an uncharted coast, and drifting ice forced him to land the party as far north of Kuskowim Bay as could be safely reached. Fortunately, on December 16, a wild, stormy day, the shore ice drifted far enough seaward to enable a hasty landing to be made near Cape Vancouver. There were forebodings of evil in attempting this winter journey now stretched out to fifteen hundred miles, under conditions which increased its perils. But with the splendid confidence and magnificent vitality of youth, the fearless revenue-officers hailed with satisfaction the beginning of their arduous journey of mercy and relief.

South of the landing was a deserted village, but fortunately a few miles to the north, near Cape Vancouver, was the still occupied Eskimo settlement of Tunanak. Ashore, Jarvis found himself in difficulty, for the snow-free rocky beach was impassable for his sledges, while he was without boats. Here, as elsewhere on this journey, the native aid was obtained on which he had counted from the knowledge of the kindly feelings of these children of the ice that he had gained in his past cruises in the Bering Sea region. As there was now an ice-free channel along the coast, the Eskimo sea-hunters deftly lashed together in pairs their kayaks (skin canoes), catamaran fashion, and piled thereon helter-skelter the various supplies. Jarvis and Bertholf watched this cargo-stowing with great anxiety, not unmingled with doubt as to the outcome of the voyage. Following the progress of the kayaks and shouting advice and encouragement from the sea-shore,

they were dismayed to see now and then a breaking wave threaten to overwhelm the boats and to find that the short sea trip had ruined much of the precious flour and indispensable hard bread.

Overhauling his cumbersome, heavy sledges and inspecting his few unsuitable dogs, he knew that they could never do all the work required. Fortunately he found a half-breed trader, Alexis, who agreed to furnish dogs, sledges, and serve as a guide to the party as far as the army post at Saint Michael. As the half-breed knew the short shore route and was familiar with the location and supplies of the succession of native villages, this enabled them to drop much of their heavy baggage and travel light. Their outfit was carefully selected, consisting of sleeping-bags, changes of clothing, camp-stoves, rifles, ammunition, axes, and a small supply of food.

Their three native sledges were open box-frames, ten feet by two in size and eighteen inches high, resting on wooden runners a foot high. Tough, pliant lashings of walrus hide bound together with the utmost tightness the frame and the runners. This method of construction, in which not a bit of iron enters, avoids rigidity and thus gives a flexibility and life to the sledge which enables it to withstand shocks and endure hard usage, which would soon break a solid frame into pieces. A cargo-cover of light canvas not only closely fits the bottom and sides of the box-frame but overlaps the top. When the cargo-cover is neatly hauled taut and is properly lashed to the sides of the sledge the load, if it has

been snugly packed, is secure from accidents. Its compact mass is equally safe from thievish dogs, from the penetrating drift of the fierce blizzards, and from dangers of loss through jolts or capsizings.

Of a single piece for each dog, the harness used by the natives is of seal-skin; the half-breeds often make it of light canvas, not only as better suited to the work but especially for its quality of non-eatableness which is a vital factor during days of dog-famine on long journeys. The harness is collar-shaped with three long bands; the collar slips over the dog's head and one band extends to the rear over the animal's back. The other bands pass downward between the dog's legs and, triced up on each side, are fastened permanently to the back-band, where there is also attached a drag-thong or pulling-trace about two feet long. In harnessing, the three loops described are slipped respectively over the head and legs of the dog.

The animals are secured in pairs to the long draught-rope of the sledge by the Alaskan pioneers, who much prefer this method to the old plan of the natives whereby the dogs were strung out in single file. With the dogs in couples the draught-line is shorter, so that the better-controlled animals will haul a larger load.

In the first day's journey they crossed a mountain range two thousand feet high, and in making the descent of the precipitous northern slope Jarvis records a sledging expedient almost unique in sledge travel. The four Eskimo drivers detached the dogs from the sledge, and winding around the runners small chains so as

to sink in the deep snow and impede their progress, prepared to coast down the mountain. Two men secured themselves firmly on each sledge, and when once started the descent was so steep that the sledges attained a fearful speed, which brought them almost breathless to the bottom of the range in ten minutes.

Jarvis describes in graphic language the trying task of feeding the always famished, wolf-like dogs: "They are ever hungry, and when one appears with an armful of dried fish, in their eagerness to get a stray mouthful the dogs crowd around in a fighting, jumping mass, which makes it difficult to keep one's balance. After throwing a fish to each dog, it takes all of us with clubs to keep off the larger fellows and to see that the weaker ones keep and eat their share. When being fed they are like wild animals—snarl, bite, and fight continually until everything is eaten."

As the dogs, worn-out by the hard journey, could not be replaced by fresh ones at the Eskimo colony of Ki-yi-lieng, Bertholf and Koltchoff waited there to bring them up later, while Jarvis and McCall pushed on, marching across the Yukon delta in temperatures below zero daily. They found the natives of this alluvial region wretchedly poor and illy protected against the bitter cold. To the eye they were a motley crowd, as they had levied tribute for clothing on the birds of the air, the beasts of the tundra, the fish of the river, and the game of the sea. There were trousers and heavy boots from the seal, inner jackets of the breasts of the wild geese, fur ornamentation of the arctic fox, and the

poorer Eskimos even made boots, when seal were lacking, from the tanned skin of the Yukon salmon.

With all their dire poverty they were not unmindful of their duty to strangers and always offered the shelter of the *khazeem* (a hut built for general use by the unmarried men, from which women are rigidly excluded). His sense of fastidiousness had not yet left Jarvis, who surprised the Eskimos by tenting in the midwinter cold rather than endure the tortures of the stifling *khazeem*, which to the natives was a place of comfort and pleasure. Of this half-underground hut Jarvis says in part: "The sides are of drift-wood, filled in with brush. The roof is ingeniously made by laying logs along the sides and lashing them thereto with walrus thongs. Two logs notched on the ends to fit securely are then laid across the first logs on opposite sides, but a little farther in toward the centre. This method is repeated until a sort of arch is formed, which is filled in with earth-covered brush leaving a small hole in the centre of the roof. Other drift-wood, split in rough slabs, forms the floor, leaving an entrance space about two feet square. From this hole in the floor, which is always several feet below the level of the surrounding ground, an entrance passage has been dug out large enough for a man to crawl through it into the main earth-floored room. Over the entrance opening is hung a skin to keep out the air, while the roof opening is covered with the thin, translucent, dried intestines of the seal or walrus, which gives faint light during the day.

"In the *khazeem* the animal heat from the bodies of

the natives, with that from seal-oil lamps, raises the temperature so high that the men sit around with the upper part of the body entirely naked. The only ventilation is through a small hole in the roof, invariably closed at night in cold weather. The condition of the air can be better imagined than described, with fifteen or twenty natives sleeping inside the small room."

The culmination of danger and suffering on the march in the delta journey was at Pikmiktellik, when they strayed from the trail and nearly perished in a violent storm. Almost as by miracle they staggered by chance into the village long after dark, so exhausted that without strength to put up their tent they gladly occupied the dreaded *khazeem*.

Twelve days brought them to Saint Michael, where they were given cordial and humane aid from Colonel (now General) George M. Randall, United States Army, and the agents of the Alaska Commercial and North American Trading Companies. Without such help Jarvis must have failed. The feet of his dogs were worn bare by rapid, rough travel of three hundred and seventy-five miles, the rubber-covered, goat-skin sleeping-bags were cold and heavy, which in bitterer weather would be actually dangerous. Deerskin clothing and fresh dogs were necessary for rapid travel with light loads on which final success depended.

Leaving orders for Bertholf, yet far behind, to bring up relief supplies from Unalaklik to Cape Blossom, by crossing the divide at the head of Norton Bay, Jarvis and McCall pushed ahead on January 1, 1898. The

third day out they met a native woman travelling south on snow-shoes, who told them that she was with her husband and Mate Tilton of the *Belvedere;* the two parties had passed each other, unseen, on trails three hundred feet apart. Tilton brought news even worse than had been expected. Three ships had been crushed by the ice-pack, two losing all their provisions, while five other ships were frozen up in the ocean ice. As the worn-out mate went south, Jarvis pushed on with new energy, realizing the great need ahead.

Severe storms and deep snow made travel very slow, and at times the runners sank so deep that the body of the sledge dragged, while the dogs were almost buried in their efforts to struggle on. They soon realized that actual arctic travel is far from being like the usual pictures of dog-sledging. Instead of frisky dogs with tails curled over their backs, with drivers comfortably seated on the sledge cracking a whip at the flying team, snarling dogs and worn-out men tramped slowly and silently through the unbroken snow.

It very rarely occurs that there is either a beaten or a marked trail, so the lead is taken by a man who keeps in advance, picking out the best road, while his comrades are hard at work lifting the sledge over bad places or keeping it from capsizing. The king dogs, who lead the way and set the pace, never stray from the broken path save in rare instances of sighting tempting game, but follow exactly the trail-breaker. One day Jarvis came to fresh, deep snow, where it took all four men to break a way for the sledge, and when they themselves

were worn out they had the misery of seeing their utterly exhausted dogs lie down on the trail, indifferent equally to the urging voice or the cutting whip. That wretched night the party had to make its camp in the open instead of at one of the native huts which were always in view.

The dog teams were sent back from the Swedish mission, Golovin Bay, where reindeer were available. Of this new and unusual method of travel, Jarvis, who drove a single-deer sledge, says: "All hands must be ready at the same time when starting a deer-train. As soon as the other animals see the head team start they are off with a jump, and for a short time they keep up a very high rate of speed. If one is not quick in jumping and in holding on to his sledge, he is likely either to lose his team or be dragged bodily along.

"The deer is harnessed with a well-fitting collar of two flat pieces of wood from which short traces go back to a breastplate or single-tree under the body. From this a single trace, protected by soft fur to prevent chafing, runs back to the sledge. A single line made fast to the halter is used for guiding, and, kept slack, is only pulled to guide or stop the deer. A hard pull brings the weight of the sledge on the head of the deer and generally brings him to a stop. No whip is used, for the timid deer becomes easily frightened and then is hard to control and quiet down. The low, wide sledges with broad runners are hard to pack so as to secure and protect the load." As the dogs naturally attack the deer, it was henceforth necessary to stop outside

the Eskimo villages, unharness the animals, and send them to pasture on the nearest beds of reindeer moss.

Jarvis thus relates his straying during a violent blizzard: "Soon after dark my deer wandered from the trail, became entangled in drift-wood on the beach, and finally wound up by running the sledge full speed against a stump, breaking the harness, dragging the line from my hand, and disappearing in the darkness and flying snow. It was impossible to see ten yards ahead, and it would be reckless to start off alone, for the others were in advance, and I might wander about all night, become exhausted, and perhaps freeze. I had nothing to eat, but righting the sledge I got out my sleeping-bag in its lee and made myself as comfortable as possible." His comrades were greatly alarmed as a reindeer dashed by them, and fearing disaster hastened back on the trail, which, although followed with difficulty on account of the blinding snow, brought them to the lieutenant still unharmed.

If the relief expedition was to be of use to the shipwrecked men it was important that food should be carried north. As this was impossible by sledge, it was evident that the sole method was to carry meat on the hoof. The sole sources of supply consisted of two herds of reindeer, at Teller and at Cape Prince of Wales. If these herds could be purchased, and if the services of skilled herders could be obtained and the herd could be driven such a long distance then the whalers could be saved. To these three problems Jarvis now bent his powers of persuasion and of ad-

ministrative ability, feeling that lives depended on the outcome and that he must not fail.

The reindeer belonged in part to an Eskimo, Artisarlook, and in part to the American Missionary Society, under the control and management of Mr. H. W. Lopp. Without the assent and active aid of these two men the proposed action would be impossible. Would he be able to persuade these men to give him their entire plant and leave themselves destitute for men whom they had never seen and knew of only to hold them in fear? Would they consider the plan practicable, and would they leave their families and go on the arctic trail in the midst of an Alaskan winter? If they thought it a bounden duty, what was to happen to their families during their absence? Day after day these questions rose in the lieutenant's mind to his great disquietude.

With Jarvis and Bertholf there was the stimulus of the *esprit de corps*, the honor of the service, always acting as a spur to their heroic labors, while in the case of Dr. McCall there was also that sense of personal devotion to the relief of suffering that inspires the medical profession as a whole.

On January 19 Jarvis reached the house of Artisarlook, when he "almost shrank from the task." From this untaught, semi-civilized native, wrestling for a bare subsistence with harsh, forbidding nature, what favor could be expected? The starving men were of an alien race, and of that class from which too often his own people had reaped degradation, suffered outrage, and endured wrongs too grievous to be ignored or forgotten.

To relieve these men Artisarlook must voluntarily loan his entire herd of reindeer without certainty of replacement. He must leave behind him his wife, unprotected and subject to the vicissitudes of an arctic environment. He must also endure the hardships and sufferings incident to a midwinter drive, in the coldest month of the year, of reindeer across a country unknown to him—a desperate venture that might cost him his life. Altruistic souls of the civilized world might make such sacrifices, but would this Alaskan Eskimo?

Of the crisis Jarvis writes: "I almost shrank from the task. He and his wife were old friends, but how to induce them to give up their deer—their absolute property—and how to convince them that the government would return an equal number at some future time was quite another matter. Besides, he and the natives gathered about him were dependent on the herd for food and clothing. If I took the deer and Artisarlook away these people were likely to starve unless some other arrangements were made for their living.

"I explained carefully what the deer were wanted for; that he must let me have the deer of his own free will, and trust to the government for an ample reward and the return of an equal number of deer.

"Artisarlook and his wife Mary held a long and solemn consultation and finally explained their situation. They were sorry for the white men at Point Barrow and they were glad to be able to help them. They would let me have their deer, one hundred and thirty-

three in number, which represented their all, if I would be directly responsible for them.

"I had dreaded this interview for fear that Artisarlook might refuse, but his nobility of character could have no better exposition than the fact that he was willing to give up his property, leave his family, and go eight hundred miles to help white men in distress, under a simple promise that his property should be returned to him."

Has there ever been a finer instance of the full faith of man in brother man than is shown in this simple pact, by word of mouth, under the dark, gloomy sky of an Alaskan midwinter? Far from the business marts of crowded cities, in the free open of broad expanses of country, there are often similar instances of man's trusting generosity and of personal self-sacrifice, but more often between those of kindred race than between the civilized man and the aborigine.

Giving written orders on the traders to tide over the winter for the natives, Jarvis pushed on, leaving Artisarlook and his herders to follow with the deer. Meantime the lieutenant had adopted the native garb, saying: "I had determined to do as the people who lived in the country did—to dress, travel, and live as they did, and if necessary to eat the same food. I found the only way to get along was to conform to the customs of those who had solved many of the problems of existence in the arctic climate." His clothing consisted of close-fitting deerskin trousers and socks, with hair next to the skin; deerskin boots, hair out, with heavy

seal-skin soles; two deerskin shirts, one with hair out and the other with hair toward the skin; close hoods, with fringing wolfskin, and mittens, the whole weighing only about ten pounds. In stormy weather he wore an outer shirt and overalls of drilling, which kept the drifting snow from filling up and freezing in a mass the hair of the deerskins.

The five days' travel to the Teller reindeer station, near Cape Prince of Wales, were filled with most bitter experiences. The temperature fell to seventy-two degrees below freezing; the sea ice over which they travelled became of almost incredible roughness; while fearful blizzards sprang up. With increasing northing the days became shorter and the exhausted reindeer had to be replaced by dogs. Much of the travel was in darkness, with resultant capsizings of sledges, frequent falls, and many bodily bruises. Of one critical situation he reports: "The heavy sledge was continually capsizing in the rough ice. About eight o'clock at night I was completely played out and quite willing to camp. But Artisarlook said *No!* that it was too cold to camp without wood (they depended on drift-wood for their fires), and that the ice-foot along the land was in danger of breaking off the shore at any minute. In the darkness I stepped through an ice-crack, and my leg to the knee was immediately one mass of ice. Urging the dogs, we dragged along till midnight to a hut that Artisarlook had before mentioned. A horrible place, no palace could have been more welcome. Fifteen people were already sleeping in the hut, the most filthy

I saw in Alaska, only ten by twelve feet in size and five feet high. Too tired to care for the filth, too tired even to eat, I was satisfied to take off my wet clothing, crawl into my bag, and to sleep." Failure to find the house and to have his frozen clothing dried would have cost the lieutenant his life.

On arriving at Teller station he had a new problem to solve—to win over the agent. He had high hopes, for although this representative of a missionary society was living on the outer edge of the world, yet he had become familiar with the vicissitudes of the frontier, and from vocation and through his associations was readily moved to acts of humanity. Jarvis set forth the situation to Mr. W. T. Lopp, the superintendent, adding that he considered Lopp's personal services to be indispensable, as he knew the country, was familiar with the customs and characteristics of the natives, and was expert in handling deer. Lopp replied that "the reindeer had been builded on by his people as their wealth and support, and to lose them would make a break in the work that could not be repaired. Still, in the interests of humanity he would give them all, explain the case to the Eskimos, and induce them to give their deer also [aggregating about three hundred]." Lopp also gave his own knowledge, influence, and personal service, his wife, with a noble disregard for her own comfort and safety at being left alone with the natives, "urging him to go, believing it to be his duty."

It is needless to recite in detail the trials and troubles that daily arose in driving across trackless tundras

(the swampy, moss-covered plains), in the darkness of midwinter, this great herd of more than four hundred timid, intractable reindeer. Throughout the eight hundred miles of travel the reindeer drivers had to carefully avoid the immediate neighborhood of Eskimo villages for fear of the ravenous, attacking dogs, who, however, on one occasion succeeded in stampeding the whole herd. For days at a time the herders were at their wits' ends to guard the deer against gaunt packs of ravenous wolves, who kept on their trail and, despite their utmost vigilance, succeeded in killing and maiming several deer. A triumphal but venturesome feat of Lopp's was the driving of the herd across the sea-floes of the broad expanse of Kotzebue Sound, thus saving one hundred and fifty miles of land travel and two weeks of valuable time.

While there were eight skilled herders, Lapps and Eskimos, the most effective work was that done by a little Lapp deer-dog, who circled around the herd when on the march to prevent the deer from straying. If a deer started from the main herd the dog was at once on his trail, snapping at his heels and turning him toward the others. Very few deer strayed or were lost, and three hundred and sixty-two were brought to Barrow in good condition.

Travelling in advance, following the shore line by dog-sledge, Jarvis and McCall were welcomed with warm generosity even by the most forlorn and wretched Eskimos, who asked them into their huts, cared for their dogs, dried their clothes, and did all possible for their

safety and comfort. The relief party, however, suffered much from the begging demands of almost starving natives, from the loss of straying dogs, and the desertion of several unreliable native employees. They were quite at the end of their food when they reached, at Cape Krusenstern, their depot. This had been brought up across country from Unalaklik through the great energy and indomitable courage of Bertholf, whose journey and sufferings were no less striking than those of his comrades.

Inexpressible was the joy of the party when, fifty miles south of Point Barrow, the masts of the *Belvedere*, a whale-ship fast in the ice, were sighted. Four days later they were at the point, their marvellous journey of eighteen hundred miles ended and their coming welcomed as a providential relief.

They found conditions frightful as regards the shelter, health, and sanitation of the shipwrecked whalers. Three ships had been lost and another was ice-beset beyond power of saving. The captains of the wrecked ships had abandoned the care and control of their men as to quarters, clothing, food, and general welfare. Provisions were very short, and the seamen were depending on their safety through successful hunting among the caribou herds in the neighborhood of Point Barrow, which were rapidly disappearing.

Jarvis at once took charge of the situation. Dr. McCall found the seamen's quarters in a most horrible condition, its single window giving but a feeble glimmer of light at mid-day, and its ventilation confined to the

few air draughts through cracks in the walls. Eighty seamen occupied for sleeping, shelter, and cooking a single room twenty by fifty feet in size, wherein they were so badly crowded that there was scarcely room for all to stand when out of their bunks together. Moisture was continually dropping from the inner ceiling and walls, which were covered with frost. Their bedding was never dry, sooty grease was coated over all things, and no place was free from great accumulations of filth and its accompaniments. The whalers were "scarcely recognizable as white men," and large numbers of them would without doubt have perished of disease but for the opportune arrival of the relief party.

Order, cleanliness, decency, and discipline were instituted, the men were distributed in light, airy rooms, their clothing was washed and renovated, and intercourse with the natives prohibited. By inspection, precept, and command the general health greatly improved. At every opportunity individual men were sent south by occasional sledge parties. Hunting was systematized, but it failed to produce enough food for the suffering whalers. Recourse was then had to the herds driven north by Lopp and Artisarlook, and with the slaughter of nearly two hundred reindeer suitable quantities of fresh meat were issued. Out of two hundred and seventy-five whalers only one died of disease. Captain Tuttle by daring seamanship reached Icy Cape July 22, 1898, and took on board the *Bear* about a hundred men whose ships were lost.

With generous feeling Jarvis gives credit in his re-

port to the whaling agent, A. C. Brower, and to "the goodness and help of the natives [Eskimos], who denied themselves to save the white people," subordinating with true heroic modesty his work to all others.

Gold and commerce have peopled the barren Alaskan wastes which were the scenes of this adventurous journey with its unique equipment and its cosmopolitan personnel of Eskimo, Lapp, and American.

While these men worked not for fame but for the lives of brother men, yet in Alaskan annals should stand forever recorded the heroic deeds and unselfish acts of Jarvis and McCall, of Bertholf and Lopp, and of that man among men—Eskimo Artisarlook.

THE MISSIONARY'S ARCTIC TRAIL

THE MISSIONARY'S ARCTIC TRAIL

"Blest river of salvation!
Pursue thy onward way;
Flow thou to every nation,
Nor in thy richness stay;
Stay not till all the lowly
Triumphant reach their home;
Stay not till all the holy
Proclaim—*The Lord is come!*"

—S. F. SMITH.

AMONG the heroic figures in the history of the human race there should be none to command greater admiration than the typical missionaries who, in foreign lands and among uncivilized tribes, have devoted their lives to the good of man and to the glory of God. Of the countless many through the ages may be named a few whose labors, actuated by a spirit of lofty endeavor, particularly appeal to the imagination and love of the people. Such men were Schwarz and Carey, in India; Livingstone, in Africa; Egede, in Greenland; Eliot and Whitney, in America. Of earnest missionaries in North America there are many worthy of special notice, and among these are not a few of French birth whose memories remain fragrant through heroic deeds and unselfish labors. Their work has entered into the life of the people, though Père Marquette is perhaps the only one whose deeds have affected the growth of a nation. Of French missionaries in late

years whose activities have been exerted within the arctic circle may be mentioned M. Emile Petitot, who served fifteen years in the arctic regions of Canada, principally in the water-sheds of the Anderson, the Mackenzie, and the Yukon. Apart from his labors of piety and of love among the Indian tribes of northwestern Canada, M. Petitot, in a dozen or more volumes, has contributed largely to our knowledge of the customs, of the beliefs, of the methods of life, and of the human qualities of the aborigines among whom he has labored. Stationed on the shores of Great Slave Lake in 1863, in the autumn of the following year he descended the Mackenzie and proceeded via Fort Simpson for missionary labors at Fort Good Hope. With his experiences in such voyages, and especially with his visit to the shores of the polar sea, this tale is principally concerned.

Coming from the highly civilized and elaborately circumscribed life of France, M. Petitot was vividly impressed with the enormous and underlying difference in the methods of life in the two countries, the more so on account of his youth. He says of this: "It is well to know the advantages of an isolated life. There is an entire exemption from taxes, tithes, levies in kind, quit-rents, poll-taxes, tariffs, customs duties, town duties (octroi), inheritance-taxes, land rents, forced labor, etc., etc."

On the other hand he finds in the northern wilds "Perfect security, unchanging peacefulness, liberty to

plant, to cut, to clear land, to mow, to reap, to fish, to hunt, to take and to give, to build and to tear down"—in short, unrestricted personal liberty of action as of thought.

In changing his station to the far north he made his first voyage down the magnificent Mackenzie, which in

Liverpool Bay Region.

the area of its drainage basin, its outflow, its length, and its wondrous scenery is scarcely surpassed by any other river of the world. His first stage of travel brought him to Fort Simpson, where he came in contact with the chief factors or agents of the Hudson Bay posts to the north, who gathered there in early autumn to bring the winter furs and to obtain the annual supply of

food and of trading goods known as their outfit. For these men it was the holiday season of the year, the only break in the fearful monotony of their isolated lives, when they see their kind and speak their native tongue.

The final glass had been drunk, the precious outfit* had been stowed safely under cover, the final word said, and then the Indian steersman dexterously turned his paddle. The voyage to the real north thus began, and the missionary's happiness was complete, though he travelled with six Indians, the factor staying behind. Drifting throughout the night, he could scarce believe his eyes when the sharp air of the cold morning awoke him. He had left a land of green trees and now the foliage of the elms that bordered the Mackenzie were as yellow as straw. The single night of polar cold had checked the life-giving sap with the same startling rapidity with which it had been caused to flow by a spring day of warm, invigorating sunshine.

Then the priest, with the mountains in view, realized the justness of the poetic Indian name, the Giant of the Highlands, given to the "noble Mackenzie, with its vast outflow, its great length, its immense width, and its majestic mountainous banks."

The river could be as terrible as it was majestic; and then came the first touch of terror from the north, a tornado storm known as the "white wind." Whirling

* M. Petitot tells us that the yearly outfit for the chief factor was, in pounds, 600 flour, 800 sugar, 200 each of rice, raisins, and salt, 100 tea, 20 chocolate, 10 black pepper, and liberal amounts of twisted or nigger-head tobacco.

downward from a cloudless sky, its furious force lashed the water into waves, filled the air with sand and gravel, and barely missed sinking the boats as they were rushed to the bank. There, standing in water to their waists, the voyageurs held fast to the ends of the boats until a brief lull made possible their discharging. For a night and a day the storm-bound travellers were thus imprisoned on a narrow ledge in wretched plight—without fire, drenched to the skin, unable to sleep, shivering under the biting northerly gale.

Near their destination they had to run the fearful rapids of the Ramparts, the most dangerous of the many swift currents of the Mackenzie. Their skiffs flew with frightful velocity, plunging down descents that were falls in low stages of water and being helplessly whirled around and around. Three danger spots were passed under conditions that made the missionary hold his breath, while admiring the dexterity and composure of the Indian steersman. It seemed an interminable eight miles, this series of rapids walled in by the towering, precipitous Ramparts, with only two points of refuge in its inhospitable cliffs even for a canoe.

Petitot soon made himself at home at the mission of Fort Good Hope, situated on the arctic circle. He found the Hare Indians alert, loquacious, companionable, warm-hearted, and childlike in their sympathies and feelings. Speaking of the free, happy Indian life he says: "How can such misery be combined with such contentment with their lot? How does the sweet pride of a free man inspire their abject nomadic life? Ask its

secret from the bird which flies warbling from shrub to shrub, waving its swift wings, drying its rain-wet plumage in the sun, tranquilly sleeping on a twig, its head under its wing."

Learning the Hare language, baptizing the babes and teaching the adults, he also put up buildings, cared for the sick, and in his garden raised potatoes and turnips under the arctic circle. But ever keeping alive that wandering spirit which had its influence in his choice for a missionary life, Petitot was not content.

With his work well in hand he learned with sadness from some of his Indian flock of the wretched conditions under which the Eskimos of Liverpool Bay were living. Fired with his usual zeal for the wretched, untaught savages, and perchance impelled somewhat by a desire to explore the country to the north, Petitot decided to make a midwinter journey to the polar sea. The agent, Gaudet, pointed out the dangers of travel in winter when the cold was excessive, sometimes ninety degrees or more below freezing, but when the priest insisted he accompanied him to Fort Anderson (or Eskimo) both men following on snow-shoes the dog-team that hauled their camp outfit over the two hundred and fifty miles of snow-covered country.

Fort Eskimo, in 68° 30′ N., on Anderson River, was the most northerly of the Hudson Bay posts, and its factor, MacFarlane, saw with surprise the arrival of this young French priest with the alert bearing and splended confidence of his twenty-five years. It must be a matter of life or death that brought him. What

was his mission? The factor could scarcely trust his ears when he heard that the object was a missionary visit to Liverpool Bay.

MacFarlane told him that the country was so wild that Fort Eskimo was palisaded, flanked with bastions, and loop-holed for rifle-fire, owing to the desperate character of the surrounding and hostile tribes. Meanwhile four Eskimos had come to the fort from Liverpool Bay, including In-no-ra-na-na, called Powder Horn by the traders. The priest had hoped to meet this native, whom the factor said was known to be the greatest scapegrace on the arctic coast. Learning that Petitot was unfamiliar with the Inuit language, and was travelling unarmed, his anxiety increased and he told him that a journey into this unknown country with this savage brute would prove fatal. It was pointed out in vain that the Eskimos were bandits and outcasts—true pirates who, glorying in theft, violence, and fraud, viewed their unbridled passions as so many human virtues that showed the true man (Inuit).*

The pen portrait of In-no-ra-na-na, whom the missionary had chosen as his guide, is worth reproduction as a type of Eskimo dandy no longer seen. "He was a handsome man, well made, of large size, good presence, fine face, and had a nearly white complexion. He wore an elegant suit of reindeer-skin, its hair outside, stylishly cut and made. It can be compared only to the costume of our ancestors in the time of Henry IV. The close coat, old French breeches, and tightly fitting

* The Eskimos call themselves Inuits, that is, *the men* of the whole world.

boots were of a beautiful brown skin of the summer coat of the deer bordered with a triple trimming of sea-otter, white wolf, and of the caribou, whose long reddish hairs surrounded his figure like a flaming aureole. Similar fringes around his arms and his legs set them off as by so many phylacteries. A head-dress hollowed out of the scowling head of a wolf surrounded his naked and closely shaven skull, which the Inuit could, if needful, partly cover with a small hood made of the head of a reindeer on which still remained the ears and budding horns of the animal." The usual labrets (ornaments inserted through slits made in the cheeks) of walrus ivory protruded from the great gashes in his face and hideously completed his dress.

As nothing could shake the priest's resolution, Factor MacFarlane decided to send as a companion a baptized Loucheux Indian, Sida-Jan, usually known as General Bottom, who spoke a little Inuit. He would save the situation and maintain the missionary's dignity by acting as his cook, dog driver, and camp servant. Moreover, as the brutal, powerful In-no-ra-na-na was actually going north the factor bribed him by giving goods to the amount of twenty beaver-skins* to guard the priest from insult or injury at the hands of his fellow-savages. Thus having done his best MacFarlane cried out, as the whip cracked and the dogs jumped to their traces, "May God protect your days among the bad people."

*The beaver-skin was the standard coin of the Hudson Bay territory, its value in our money being fifty cents.

Eskimo fashion, they ran over the crisp, crackling snow in single file, the leader I-you-ma-tou-nak (the itchy) breaking the trail, followed by the great chief In-no-ra-na-na (Powder Horn), Sida-Jan (Bottom), and Petitot. When asked why they always thus marched in single file the Inuits answered: "The best-fitted leads and the others form the tail. It is the order of the ducks and cranes who plough the air, of the reindeer in migration, and of the buffalo or musk-oxen changing their pasture-grounds."

The calm cold was not felt, though the mercury was frozen, until the leader stopped short on the middle ice of the frozen Anderson, over which their route lay, and began to unload his sledge while the others were busy cutting through the snow for water. Petitot had a Hudson Bay sledge with steel-clad, smooth bottom, while the native sledges ran on two rough, solid side runners of wood. These runners drag fearfully when not shod with ice, which coating usually wears off in a few hours of land travel. So throughout the day, from time to time the Eskimo sledge was turned upside down, and its ice runners renewed by frequent wettings of the injured surfaces, the water freezing as it was applied.

As they were about camping the first night they met two young Inuits who had a stone lamp and fresh whale blubber—essentials for a warm meal—so the two parties joined forces to build a snow hut. Warned by the factor not to endanger his life or impair his dignity by working with his hands, the poor priest

nearly froze as the house was reared, his undergarments, damp with the perspiration of travel, chilling his body bitterly. He tells us how deftly two of the natives carved from the snow-drifts on the river wedge-shaped slabs. The builder skilfully laid the blocks in spiral fashion, slicing them to fit and matching them quite closely with his snow-knife. The master-workman sprinkled with water the rising walls, which when finished formed a dome-like structure of dazzling whiteness, though hermetically sealed. Then with a few strokes of the snow-knife a door-way was carved out and to the windward of it was built a circular snow wall. Meanwhile an Eskimo built of snow inside the hut the customary divan—a raised shelf where the natives sleep—whereon were arranged the bear and reindeer skins for bedding. Close by the door was suspended the black pot-stone lamp, and directly opposite was placed the proverbial chamber-pot—always present in the Inuit huts.

After being brushed for the twentieth time with the reindeer wisp, to remove every particle of snow from his fur garments, Petitot seated himself in a corner of the divan, a place of honor. When all the Inuits were within the hut they carefully drew up the circular snow wall to the very door-way and poured water over the crevices. When it froze the six travellers were in a hermetically sealed snow house, there being no window or other opening through which a breath of wind could come.

The missionary's sufferings were intense that first

night of arctic travel. Smoky soot from the dirty lamp and the nauseous effluvia from his unkempt bedfellows were bad enough, but the excessive heat and impure air became quite unendurable. The outside cold was about eighty degrees below freezing, while the inside temperature was about eighty degrees above, so that the inner snow-blocks sweat freely, the globules of water forming on the surface ready to shower down on them at the slightest shock.

The Inuits stripped as usual to the skin, but the shame-faced priest felt obliged to keep on his clothes, removing his outer fur garments only. He says: "I slept feverishly in cat-naps, with constant nightmare. Tormented by my garments, perspiring terribly from the heat, crowded between my companions like a packed herring, sickened by unhealthy odors, and suffocated by unbreathable air, what fearful agony I suffered that night! [He adds:] Save their odor and their nudity, the company of the inmates was not disagreeable. Nor did the food prove less repulsive, especially the opaline, greenish-white whale blubber, which, cut into long, thin strips, forms a choice delicacy known to the Inuits as *ortchok*. The native with his left hand holds the dainty morsel above the greedily upturned open mouth which it at once fills. Gripping the *ortchok* fast with his teeth, with a knife in his right hand he cuts it off as near the lips as he can, swallowing it with a gurgle of joy."

When Petitot asked for cooked blubber his host promptly pulled out the melting piece from the smok-

ing, dirty lamp, and was surprised that such a delicacy was refused. When later tasted the raw blubber was found to be insipid, though the fresh oil therefrom was not unlike olive oil in its flavor.

As a kind of dessert they drew on their small supply of congealed seal-oil, so rancid as to be offensive. To this food neither time nor circumstance reconciles the white man.

The meal over the natives took to the soothing evening pipe, and gradually began the talk of the day and of the morrow. Mindful of the precious store goods in his pack and of his promise to the factor, Powder Horn chanted the glory of Fort Anderson, and then sang to the young stranger Inuits the praises of the missionary, whom he proclaimed to be the Son of the Sun; despite his protestations, transforming the priest into a demi-god.

The long day's march had seen the scattering groves dwindle and fail—first the bankerian pine, followed in order by the balsam poplar and the aspen. Now as they broke their morning camp the canoe birch was a stunted, wretched shrub scarcely attaining the dignity of a tree, and even this was gone when they made their next camp near the Anderson delta, leaving here and there unsightly and rare specimens of the hardy larch and the arctic spruces.

Next day they parted company with the young natives, who carried with them the pot-stone lamp, much to the priest's annoyance, as he was nearly frozen when they entered the igloo on the river ice. Powder Horn

under pressure showed his ingenuity in providing a substitute. Picking up a piece of drift-wood, he hollowed it out lamp-shaped, and covered its bottom and sides with pebbles and flat stones. As moss was lacking for the wicking, he plucked a pinch of hair from his deerskin sleeping-robe, twisted it into a mesh, and the lamp was ready. During the night a violent gale buried the igloo in a snow-drift. The river ice was under such storm-pressures and it oscillated so strongly and continuously to and fro that they all feared that the river would open and swallow them up. Throughout the whole night the roaring of the wind, the groaning of the ice, and the quivering of the igloo made sleep impossible.

As they passed the river's mouth the third day the landscape was one of frightful sterility. Snow became thin and scanty, the ice was rougher, and the bare spots of ground seemed to have no signs of vegetation, trees and shrubs failing utterly. Nature was worse than dead with its apparent desolation. Here both man and beast was doomed alike to a constant and eternal struggle for bare existence in this adverse environment.

The lack of material and the ingenuity of the Inuits in wresting a bare subsistence from this forlorn country was indicated by a most efficient fox-trap made entirely of ice.

Long after dark the wearied sledge dogs with loud howlings broke into a rapid run, and were welcomed with fierce yells from the rival teams of the Eskimo village, a dozen large snow houses on the shores of Liverpool Bay. So dim was the light and so strange the

garments and the attitudes of the native women, fur-clad and crawling on all-fours from the huts, that the missionary could scarcely distinguish them from the dogs.

Introduced to the people of the village by his Inuit protector as the Son of the Sun, he was made welcome after the manner of the country. His efforts at conversions did not bear visible fruit, though the natives listened gravely to his sermons on kindness and goodness, on chastity and honesty, on wifely fidelity and motherly love.

Doubtless he was best remembered in after days, as he himself suggests, "As the man who ate when a little pocket-sun [chronometer] told him; who guided himself on the trail by a live turning-iron [compass]; who made fire by rubbing a bit of wood on his sleeve [matches]; and who by looking hard at something white [prayer-book] made it possible for the Inuit to catch black foxes—the most valuable of all their furs."

Father Petitot made his plans the following summer to renew his efforts to improve the method of life of these wretched and remote natives, and to instil in them moral lessons which his later acquired knowledge of the Eskimo dialect would facilitate. An epidemic, however, destroyed many of the Inuits as well as of the Indian tribes in the Mackenzie region, thus preventing a renewal of the missionary's crusade against immorality and misery.

Nevertheless the adventurous midwinter mission of Father Petitot, in facing fearlessly the danger of death,

in enduring uncomplainingly its physical tortures, and in taking up a daily life, Inuit fashion, under such almost revolting conditions, displayed the heroism of the true missionary. While Petitot's self-sacrifice, in the way of physical comforts and of personal sufferings, is not the most remarkable in the annals of the church in arctic history, yet it may well serve as an example for the aspiring and altruistic souls who are willing to do and to dare for the welfare of their fellow-man.

SCHWATKA'S SUMMER SEARCH

SCHWATKA'S SUMMER SEARCH

"On Fame's eternal camping ground
Their silent tents are spread,
And glory guards with solemn round
The bivouac of the dead."

—O'HARA.

AMONG the startling and too-often believed stories of the polar regions are many which have their origin as whalers' "yarns." Spun for the purpose of killing time and of amusing hearers, by repetition and circulation they attain the dignity of "reliable personal accounts." Among such credited "yarns" in the early seventies was one to the effect that the missing records of the proceedings and discoveries of the lost squadron of Sir John Franklin were to be found in a cairn which was located near and easily accessible from Repulse Bay. Told and retold with an air of truth, it became the foundation on which was based the Schwatka-Gilder search of King William Land. This expedition sailed under the favoring auspices of the American Geographical Society of New York on the whaler *Eothen*, from which landed at Repulse Bay the party of five—Lieutenant Frederick Schwatka, United States Army, W. H. Gilder, H. W. Klutschak, F. E. Melms, and Eskimo Ebierbing, known as Joe (see p. 196).

In establishing their winter camp near Chesterfield

Inlet they adopted as closely as possible native methods of life as to food, clothing, and shelter. In the intervals of hunting trips they ran down the several "yarns" on which their search had been planned, and were dismayed to find that they were entirely unfounded.

Schwatka was not the man to turn back without results, and so he determined to visit the regions in which the Franklin party had perished, hoping that he might be able to throw new light on the disaster. If he had been deceived as to the Franklin records being cached at a particular point, he possibly might find them elsewhere, as records must have been somewhere deposited for safety. It was a daring venture, but there might be a possibility of more thoroughly examining King William Land when snow-free.

The more striking phases of Schwatka's unique and successful experience in the search are told here.*

During the winter there was much visiting to and fro with the Eskimos camped near them. They soon found that there was a bright side to life among the Inuits, and that the natives indulged in games of skill much as we do. Gilder tells of the men playing the game of *nu-glew-tar*, which demands a quick eye and alert, accurate movements: "A small piece of bone is suspended from the roof by a line made of walrus hide, and a heavy weight dangles below it to keep it from swinging. The bone is pierced with four small holes, and the players stand around, armed with small sticks

* See map on page 177.

with which they jab at the bone, endeavoring to pierce one of the holes. Some one starts the game by offering a prize, which is won by him who pierces the bone and holds it fast with his stick. The winner in turn offers a prize for the others to try for." It is not a gambling game, but by prizes it encourages the acquirement of keen eyesight and accurate aim, so needful to success in hunting.

With the opening of April, 1879, Schwatka's party took the field, crossing the land in as straight a line as they could to Montreal Island, near the mouth of Back River. Twelve Eskimos—men, women, and children—were added to the party, and with their forty-two dogs they hauled about two and one-half tons, of which less than one-fourth consisted of provisions of a civilized character—bread, pork, beef, coffee, tea, etc.—being food for one month only. Travel overland was very difficult owing to the rocky region traversed, which stripped the runners of their ice-shoes. He says: "The ice is put upon the runners the first thing in the morning when coming out of the igloo, which was built every night. The sledge is turned upside down, and the water, after being held in the mouth a little while to warm it, is squirted over the runners and freezes almost immediately. Successive layers are applied until a clean, smooth surface is acquired, upon which the sledge slips over the snow with comparative ease."

Of the Ook-joo-liks they met with Gilder says: "Instead of reindeer gloves and shoes they wore articles made of musk-ox skin, which had a most extraordinary

effect. The hair of the musk-ox is several inches long, and it looked as if the natives had an old-fashioned muff on each hand. They explained that it was almost impossible to get near enough to kill reindeer with arrows, their only weapons."

An old Ook-joo-lik said that he had seen a white man dead in a ship which sank about five miles west of Grant Point, Adelaide Peninsula. Before the ship sank the Inuits obtained spoons, knives, etc., from her, and the story seemed true from the number of relics of the *Erebus* and *Terror* in their possession.

The explorers visited Richardson Inlet, where they were told that a boat had been found by the natives with five skeletons under it. The most important information was gained from a Netchillik woman who said that on the southeast coast of King William Land "she with her husband, and two other men with their wives, had many years ago seen ten men dragging a sledge with a boat on it. Five whites put up a tent on shore and five remained with the boat. The Inuits and the whites stayed together five days, the former killing several seals and giving them to the white men." The whites attempted to cross to the main-land, and the Eskimos remained all summer on King William Land and never saw the whites again. She also said that "the following spring she saw a tent standing at the head of Terror Bay. There were dead bodies in the tent and outside—nothing but bones and clothing. Near by were knives, spoons, forks, books, etc."

While elated at his success in learning from the Ook-

joo-liks these incidents, which added much to the reports of Rae and McClintock as to the fate of Crozier and his comrades, Schwatka was not content. With a courage bordering on rashness he decided to cross Simpson Strait to King William Land and thoroughly search for records while the ground was free from snow. This meant passing the summer on this desolate island, for he could not hope to recross the strait, save by chance, until the autumnal colds should form new ice.

He had just learned that the island was so barren of game in 1848 that one hundred and five men had there perished of starvation. Some of the natives told him that the same fate awaited the white men of to-day. Yet such was the dominating power of this fearless soldier that not only did his white comrades go forward zealously but several Eskimos followed, including his hunter, Too-loo-ah, of whom it was said: "There is a legend in his tribe that he was never known to be tired."

Among the hunting feats of the natives was the spring duck-hunting, when the birds are moulting and unable to fly. Fitted with his spear the Eskimo carries his kayak to the remote lake where the birds feed. Cautiously advancing until the flock is alarmed, he makes a furious dash toward the largest bunch. When within some twenty feet of the struggling birds he seizes his queer-looking spear, with its three barbs of unequal length, and with an expertness gained from long practice hurls it at a bird, which is nearly always killed, impaled by the sharp central barb. The wooden shaft of the spear floats the game until the hunter reaches it.

Scarcely had the party marched a single day on the ice-pack of Simpson Strait when some would have turned back, the crossing being doubtful. Gilder records: "We would sink to our waists and our legs would be dangling in slush without finding bottom. The sledge often sank so that the dogs, floundering in the slush or scrambling over the broken ice, could not pull. Then we gathered around to help them, getting an occasional footing by kneeling on a hummock or holding on with one hand while we pushed with the other. Yet through the skill and experience of our Inuit dog driver we made a march of ten miles." In this journey even the athlete, Too-loo-ah, was so exhausted that the party had to rest the following day.

Schwatka with Gilder and his other white companions then made a most exhaustive search of the island, the Eskimos aiding in the intervals of the hunt or while going to and fro. The search revealed four despoiled graves, three skeletons, Crozier's original camp and his daily bivouacs during his fatal southward march, the Erebus Bay boat, and the record deposited by McClintock in 1859. Especially interesting was the grave of Lieutenant John Irving, one of Franklin's officers. Evidently the body had been wrapped in his uniform and then encased in canvas as if for burial at sea. A personal medal of Irving's and other articles identified the remains. Unfortunately none of the Franklin records or traces thereof were anywhere found.

It is not to be thought that these marches and discoveries were made otherwise than with great suffer-

ing, with danger even of starvation. More than once they were entirely without food, and as a rule they lived from hand to mouth.

Gilder relates this semi-humorous experience: "While Klutschak was cooking the last of our meat he left the fire a few minutes. The dogs breaking from their fastenings poured down on the culinary department like an army of devouring fiends. Too-loo-ah, knowing the state of our larder, slipped out under the end of the tent, stark naked from his sleeping-bag, and by a shower of stones sent the dogs away howling."

Their greatest discomfort arose from the lack of shoes and stockings, their outer foot-gear being soon worn-out beyond repair, while hard travel had rubbed all the hair from their stockings. Under these conditions walking was often physical torture, which frequent moccasin patching only slightly relieved. Finally they had to send to the base camp at the south end of the island, where the two native women were, to obtain foot-gear for their return journey from Cape Felix, the northernmost point of King William Land.

While sledging along this point Too-loo-ah discovered a bear on the ice of Victoria Strait far to the north. Dumping his load he urged his dogs forward, plying the whip until the team sighted the as yet unconscious bear. With wolf-like ferocity and swiftness the excited dogs rushed madly forward, the empty sledge swinging from side to side on the rough ice-floes or splashing through the pools or tide cracks that lay in the road. When within a mile or so of the bear he saw his coming

enemies, and with his lumbering, rocking gait rushes off at a speed that astonishes a novice who notes his awkward motions. Ook-joo-lik leaning forward cuts the traces with his sharp hunting-knife, freeing in a bunch the yelping dogs who run swiftly after the fleeing animal. Soon the dogs are at bruin's heels, snapping and biting him so that he is obliged to halt and defend himself. A battle royal now occurs, the defiant, growling bear, rushing and striking fiercely at his enemies. The old and experienced dogs attack him either in the rear or by side rushes when his attention is given to another quarter, and when he turns they elude the clumsy brute with great dexterity. Now and then an untrained youngster attacks directly, only to receive a blow from the powerful paws that either kills or maims him.

Soon Too-loo-ah came up almost breathless from his haste, and waited for a chance to get a shot without killing a dog. Gilder tells us of the unusual experience of the native at this time: "The bear disregarding the dogs made a rush for the active young hunter that almost brought his heart into his mouth. Recovering his composure in good season, he sent three bullets from his Winchester rifle, backed by a charge of seventy-five grains of powder behind each, right into the animal's skull, and the huge beast lay dead almost at his feet."

At times their hunger, when meat was lacking, was appeased by a small black berry called by the natives *parawong*, which was not only pleasing from its welcome spicy and pungent tartness, but was really life-supporting for a while at least.

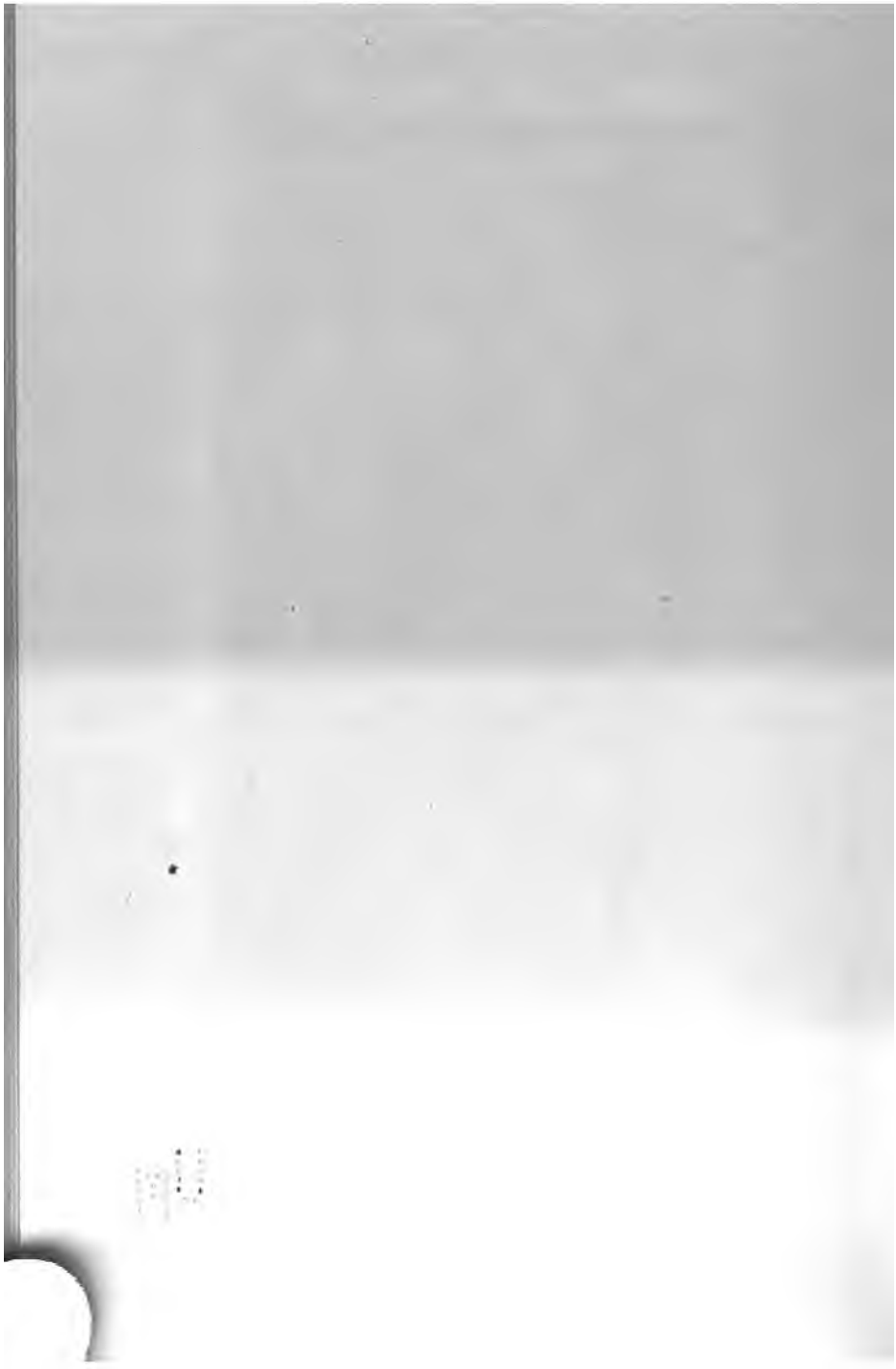
While making thorough search of every ravine or hill-top for records or for relics, "The walking developed new tortures every day. We were either wading through the hill-side torrents or lakes, which, frozen on the bottom, made the footing exceedingly treacherous, or else with seal-skin boots, soft by constant wetting, painfully plodding over sharp stones set firmly in the ground with the edges pointed up. Sometimes as a new method of injury, stepping and slipping on flat stones, the unwary foot slid into a crevice that seemingly wrenched it from the body."

Under stress of hunger and in due time they came to eat the same food as their native hunters. We are told that "In the season the reindeer are exceedingly fat, the tallow (called by the Inuits *tudnoo*) lying in great flakes from half an inch to two and a half inches thick along the back and over the rump. This tallow has a most delicious flavor and is eaten with the meat, either cooked or raw. The intestines are also encased in a lace-work of tallow which constitutes a palatable dish. Indeed, there is no part of any animal used for food but what is eaten by the Eskimos and which we also have partaken of with great relish. A dish made of the contents of the paunch, mixed with seal-oil, looks like ice-cream and is the Eskimos' substitute for that confection." It has none of the flavor, however, of ice-cream, but, as Lieutenant Schwatka says, may be more likened to *locust, sawdust* and *wild-honey*.

After the breaking up of the winter floes in the strait the hunters gave much time to the pursuit of the rein-

deer and killed many. Too-loo-ah gave a new instance of his courage and of his resourcefulness as a hunter. Going to the beach to find some drift-wood for fuel he left his gun in camp. Near the coast he came upon a she bear with her half grown cub. Knowing that the game would escape if he went back for his rifle, "he drove the old bear into the sea with stones and killed the cub with a handless snow-knife." His great pleasure was in the slaughter of reindeer, of which great herds appeared during the late summer, while Schwatka was awaiting the coming of cold and the formation of ice on Simpson Strait for the crossing of his heavy sledges. Too-loo-ah indulged as a pastime in seal-hunting in these days of prosperity. When he got a seal one of his first operations was "to make a slit in the stomach of the still breathing animal, and cutting off some of the warm liver with a slice or two of blubber, the hunter regaled himself with a hearty luncheon." Now and then the keen scent of a dog or his own hunter's instinct discovered a seal *igloo* on the floe. This is a house built for their young near the air-holes where the mothers come for breathing spells. Gilder says: "Here the baby seals are born and live until old enough to venture into the water. When a hunter finds an occupied *igloo* he immediately breaks in the roof in search of the little one, which remains very quiet even when the hunter pokes his head through the broken roof. The young seal is easily killed with the spear, and the hunter waits for the mother who is never absent a long time from her baby. The young seal is usually

SCHWATKA'S PERMANENT CAMP.



cut open as soon as killed and its little stomach examined for milk, which is esteemed a great luxury by the Eskimos."

Gilder gives an account of their camp life while waiting on events. "We ate quantities of reindeer tallow with our meat, probably about half of our daily food. Breakfast is eaten raw and frozen, but we generally have a warm meal in the evening. Fuel is hard to obtain and now consists of a vine-like moss called *ik-shoot-ik*. Reindeer tallow is used for a light. A small, flat stone serves for a candlestick, on which a lump of tallow is placed close to a piece of fibrous moss called *mun-ne*, which is used for a wick. The melting tallow runs down upon the stone and is immediately absorbed by the moss. This makes a cheerful and pleasant light, but is most exasperating to a hungry man as it smells exactly like frying meat. Eating such quantities of tallow is a great benefit in this climate, and we can easily see the effects of it in the comfort with which we meet the cold."

It was most interesting to see the southward migration of the reindeer, which began as soon as the ice on Simpson Strait would bear them. They went in herds, and by the middle of October the country was practically bare of them.

Of their own trip southward Gilder writes: "The most unpleasant feature of winter travelling is the waiting for an igloo to be built, which is done at the end of every day's march. To those at work even this time can be made to pass pleasantly, and there is plenty that

even the white men can do at such time. Another task that the white men can interest themselves in is the unloading of the sled and beating the ice and snow out of the fur bedclothing. The Eskimos do not use sleeping-bags for themselves, but instead have a blanket which they spread over them, while under them are several skins, not only to keep the body away from the snow, but also to prevent the body from thawing the snow-couch and thus making a hole that would soon wet the skins. On the march the bed-skins are usually spread over the top of the loaded sledge, the fur side up, because it is easy enough to beat the snow from the fur, while it might thaw and make the skin side wet. Continued pounding will remove every vestige of ice without disturbing the fur, if the weather is sufficiently cold."

Of the dogs he says: "Twice the dogs had an interval of eight days between meals and were in condition for hard work. That they could live and do any work at all seemed marvellous. I am constrained to believe that the Eskimo dog will do more work, and with less food, than any other draught animal existing."

Of the travel he adds: "The weather is intensely cold, ninety-seven degrees below freezing, with scarcely any wind. It did not seem so cold as when the wind was blowing in our face at fifty degrees below freezing. We were so well fortified against the cold by the quantities of fat we had eaten that we did not mind it."

Conditions of travel were very bad in December, when they had to lie over for hunting, game being so

scarce. But January, 1880, was their month of trial, the temperature sinking to one hundred and four degrees below the freezing-point on one occasion, while they were harassed by a violent blizzard of thirteen days' duration. Wolves later attacked their team, killing four dogs in their very camp. Indeed, Too-loo-ah had a most narrow escape when surrounded by a pack of twenty wolves. "He jumped upon a big rock, which was soon surrounded, and there fought the savage beasts off with the butt of his gun until he got a sure shot, when he killed one. While the others fought over and devoured the carcass of their mate he made the best of his opportunity to get back into camp."

Through famine, cold, and wolf raids the teams began to fail. "It was almost our daily experience now to lose one or more dogs [in fact, they lost twenty-seven on this trip]. A seal-skin full of blubber would have saved many of our dogs; but we had none to spare for them, as we were reduced to the point when we had to save it exclusively for lighting the igloos at night. We could not use it to warm our igloos or to cook with. Our meat had to be eaten cold—that is, frozen so solid that it had to be sawed and then broken into convenient-sized lumps, which when first put into the mouth were like stones. Sometimes, however, the snow was beaten off the moss on the hill-sides and enough was gathered to cook a meal."

In the last stages of famine the party was saved by the killing of a walrus. Of conditions existing at this time Gilder records: "All felt the danger that again

threatened them, as it had done twice before when they had to kill and eat some of their starving dogs. People spoke to each other in whispers, and everything was quiet save for the never-ceasing and piteous cries of the hungry children begging for the food that their parents could not give them."

In this laudable effort to find the Franklin records Schwatka and his comrades passed through experiences unsurpassed in arctic life by white men, and that without loss of life or with other disaster. They adopted Eskimo methods of dress, travel, shelter, and life in general. As an expedition it surpassed in distance of travel and in length of absence from civilized life, or of external support, any other known. It was absent from its base of supplies for a year (lacking ten days), and travelled three thousand two hundred and fifty miles.

The success of Schwatka is important as showing what can be done by men active in body, alert in mind, and firm in will. He acted on the belief that men of force, well armed and intelligently outfitted, could safely venture into regions where have lived for many generations the Eskimos, who hold fast to the country and to the method of life of their ancestors.

The most striking phases of the journeys of Schwatka and his white comrades evidence heroic qualities of mind and unusual powers of endurance which achieved sledging feats that have excited the admiration of all arctic experts. Such success, however, could have been obtained only by men of exceptional energy,

practically familiar with field work, and gifted with such resourceful minds as at times can dominate adverse conditions that would involve less heroic men in dire disaster.

The Franklin Search by Schwatka, Gilder and Klutschak was quixotic in its initiation, ill-fitted in its equipment, and rash in its prosecution. It was redeemed from failure through the heroic spirit of the party, which gained the applause of the civilized world for its material contributions to a problem that was considered as definitely abandoned and as absolutely insoluble. Such an example of accomplishment under most adverse conditions is worth much to aspiring minds and resolute characters.

THE INUIT SURVIVORS OF THE STONE AGE

THE INUIT SURVIVORS OF THE STONE AGE

"Ye whose hearts are fresh and simple,
Who have faith in God and Nature,
Who believe, that in all ages
Every human heart is human,
That in even savage bosoms
There are longings, yearnings, strivings
For the good they comprehend not,
That the feeble hands and helpless,
Groping blindly in the darkness,
Touch God's hand in that darkness;—
And are lifted up and strengthened."

—LONGFELLOW.

IT is now well known that the first country of the western hemisphere to be visited by Europeans was Greenland—nearly a thousand years ago. The European settlement, the Christianization, and the abandonment of southern Greenland, covering a period of three centuries, has lately received interesting and exhaustive treatment by a famous arctic expert who has brought together all existing data. Foreign to these investigations are the facts associated with the discovery during the past hundred years of three Inuit tribes of Greenland previously unknown to the world. It seems astonishing that nine hundred years of Greenland's history and of its exploration should have passed without revealing the existence of the Eskimos of Etah, of Omevik, and of Angmagsalik. This narrative dwells more particularly on the finding of the tribe of Ang-

magsalik, on the coast of East Greenland, by Captain G. Holm, Royal Danish Navy, through whose heroic efforts and wise recommendations the tribe is now under the protecting influences of the government of Denmark and has become a Christian, well-cared-for people.*

In 1818 Captain John Ross, R.N., in an attempt to discover the northwest passage, though verifying the discredited discoveries of Baffin in 1616, failed in his special effort. However, he added a new people to the knowledge of the world through meeting in the neighborhood of Cape York, Baffin Bay, eight of the Inuits, now known as the Etah or Cape York Eskimos, whom he fancifully designated as the Arctic Highlanders. Elisha Kent Kane was the first to have familiar relations with and give detailed information about these isolated natives, the tribe in 1854 consisting of one hundred and forty persons. In later years the Etahs have been frequently visited by explorers, whalers, and hunters. As the most northerly inhabitants of the world at the present time, they naturally have engaged the earnest attention of all who have met these hardy, kindly, and resourceful people. Kane's fear of their extinction was groundless, as against the number of one hundred and forty, given by him, Peary's census figures of 1897 show two hundred and thirty-four, an increase of ninety-four in forty years. Rasmussen relates that within the memory of man, but evidently

* See map on page 235.

since Kane's time, fourteen Eskimos from the region of Baffin Land have joined the Etah natives. It is reasonable to believe that the origin of the Cape York Eskimo was through similar migrations probably two or three centuries earlier.

Prior to the nineteenth century practically the only known Eskimo people of Greenland consisted of those under Danish protection, who occupied the entire ice-free west coast from Cape Farewell 60° N. to Tasiusak, 73° 24′ N. Traditions of the existence of tribes of natives on the east coast have long prevailed, but up to the nineteenth century there were known only a few individuals, quite near Farewell, which were visited by Wallφ in 1752.

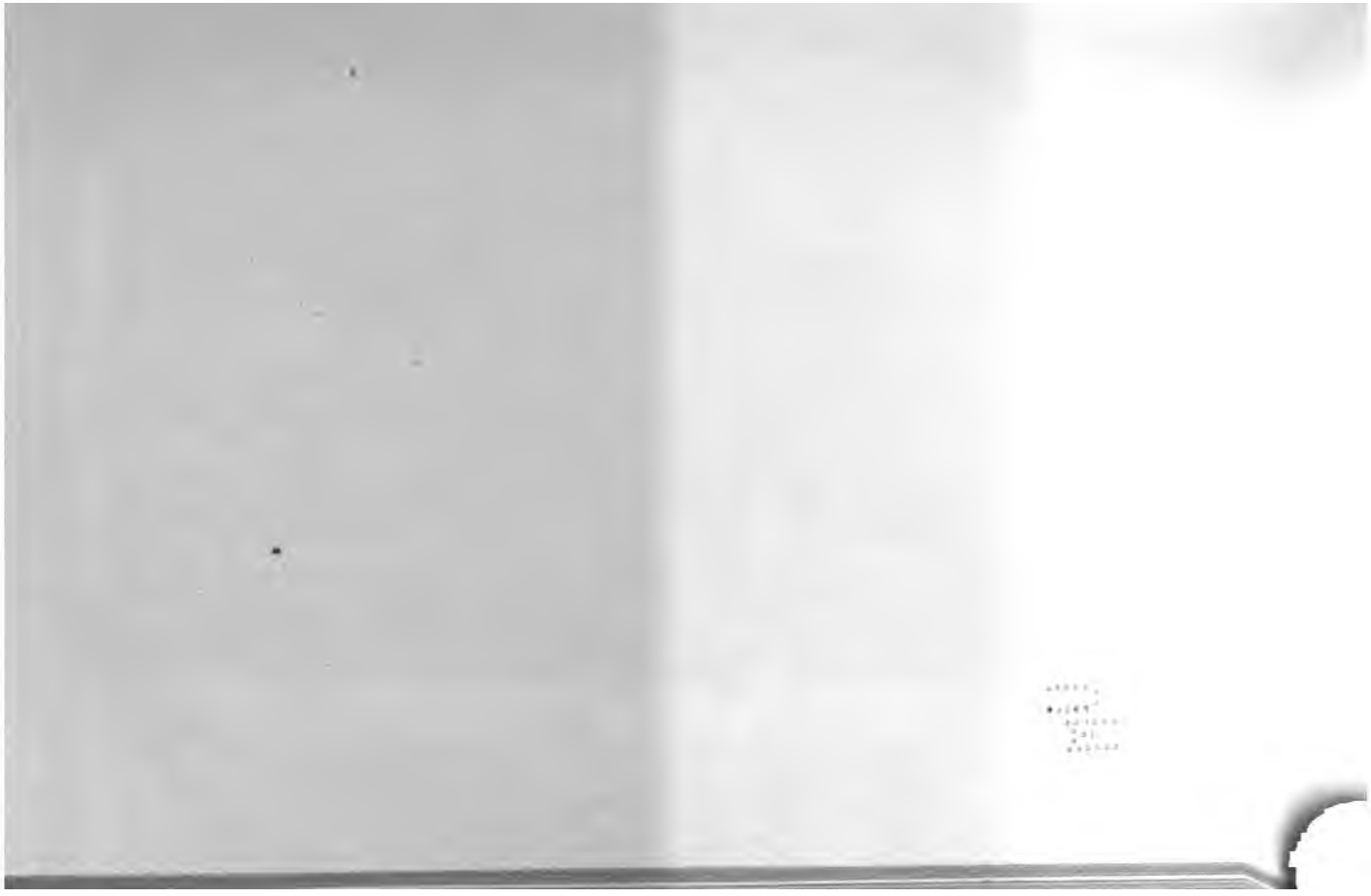
Still among the Inuits of extreme southern Greenland were numerous and curious traditions of the inhabitants of the east coast, one to the effect that far to the northward were some light-haired people of European complexion. Another tale oft told in winter gatherings was one, doubtless in ridicule, of the occasional Inuit who, holding fast to a barren land, came west only to trade and never to live. It is a beautiful legend showing true and abiding love of home and country. Dr. Rink thus translates it: "A man from the east coast of Greenland from love of his home never left it even during the summer-time. Among his principal enjoyments was that of gazing at the sun rising out of the ocean. But when his son grew up he became desirous of seeing other countries and above all of accompanying his countrymen to the west coast. At length

he persuaded his father to go with him. No sooner, however, had they passed Cape Farewell and the father saw the sun about to rise behind the land than he insisted upon returning immediately. Having again reached their island home, he went out from his tent early next morning, and when his people had in vain waited for his return they went out and found him dead. His delight at again seeing the sun rise out of the ocean had overpowered and killed him."

The first definite knowledge of the Eastern Inuits came by accident, through the boat voyage of Captain W. A. Graah, who under the directions of the King of Denmark was searching for the ruins of the East Bygd —the colony of Scandinavians of the twelfth to the fifteenth century. During this search, which extended to within sight of Cape Dan, Graah found no less than five hundred and thirty-six Inuits living at about twenty different places. Of these more than one-half had never seen a white man.

Graah says of them: "The affection the Eastlanders have for their children is excessive. . . . Notwithstanding the little care bestowed on them, the children conduct themselves so as to seldom merit reproof. . . . The East Greenlanders look on begging, especially for food, as a disgrace. . . . As soon as a boy can creep about alone his father gives him a little javelin, which he is taught to throw at a mark. He thus speedily acquires that dexterity in the management of his weapon on which in after years he is to principally depend for his own and his family's subsistence. When he grows

A GROUP OF THE ESKIMO INUITS.



older he is provided with a kayak, and learns to battle with the waves, to catch birds, and to strike the seal. When the youth comes home for the first time with a seal in tow the day is made a holiday and the friends and neighbors invited to a feast, at which, while he recounts all the circumstances of the chase, the maidens present lay their heads together to choose a bride for him.

"Their intercourse with each other is marked with singular urbanity; they are modest, friendly, obliging, and forbearing.

"When the howling of the dogs proclaim the arrival of strangers the people hurry to the shore to welcome them and to invite them to their houses. The wet clothes of the visitors are taken from them and hung up to dry. Dry ones are lent in their stead, and if a hole is discovered in their boots the landlady sets to work straightway to patch it.

"They are a gentle, civil, well-behaved set of people among whom one's life and property are perfectly secure as long as one treats them with civility and does them no wrong. Their veracity and fidelity are beyond impeachment.

"The northern lights they take to be the spirits of the dead playing ball with the head of a walrus."

The principal encampments were between Kemisak and Omevik, beyond which place to the north, said the natives of Kemisak, there were no inhabitants. The Eskimos numbered two hundred and ninety-five and were called the Omivekkians.

Of their environment in favorable places and their amusements Graah reported: "The cove had fields of considerable extent, covered with dwarf willows, juniper berry, black crakeberry, and whortleberry heath, with many patches of fine grass. The stream, abounding in char, had its source in the glaciers of which several gigantic arms reached down from the height in the background. Flowers everywhere adorned the fields. Three hundred paces from the sea the cliffs rise almost perpendicularly, with snow-clad summits, far beyond the average height. The natives had here assembled to feast upon the char, plentiful and of large size, the black crakeberry, and angelica, gathering them also for winter use. They give themselves up to mirth and merrymaking. This evening, to the number of two hundred or more, they began by torch-light their tambourine dance, a favorite festival."

Graah believed that there were no natives living to the north of Cape Dan, and that, when the greater part of the Eskimos seen by him moved to West Greenland, in the course of a few years, the whole coast was deserted. This belief was seemingly, though erroneously, confirmed by the fact that, while Clavering saw a few natives in 74° N., Scoresby, Koldewey, Ryder, Nathorst, and the Duke of Orleans, in their explorations, saw no living native on the east coast.

It remained for the expeditions of Hall, Nares, Greely, Amdrup, Holm, and Mylius-Erichsen to prove by their united observations that there was not only an Inuit settlement on the east coast, but that such

natives are the descendants of the true Children of the Ice, who have crossed Grinnell Land, skirted northern Greenland, and thus come eventually to their present habitat. Their fathers were formerly inhabitants of the most northerly lands of the globe, of the lands of Grant, Grinnell, Greenland, and Hazen (or Peary).

Brief and transient may have been their occupation of many of the various encampments during their devious wanderings in the long migration, covering nearly two thousand miles of travel. Their summer tent-rings and stone winter huts dot the favoring shores of every game-producing fiord from Cape Farewell, in 60° N., northward to Brönlund Fiord, Hazen (Peary) Land, 82° 08′ N., on the nearest known land to the north pole.

They travelled leisurely, seeking fruitful hunting grounds and living on the game of the land or of the adjacent sea. They thus netted the salmon of the glacial lakes, searched the valleys for deer, snared the ptarmigan, lanced the lumbering musk-ox, speared the sea-fowl, caught the seal, slaughtered the walrus, and they are believed to have even pursued in kayaks and lanced the narwhal and the white whale.

While Mylius-Erichsen and his heroic comrades obtained the definite information as to the extreme northern limit of Inuit habitation of all time, and paid the price of such data with their lives, it was with equal bravery but happier fortune that Captain G. Holm rescued from oblivion, and thus indirectly raised to happier life, the struggling descendants of the iron men and

women whose unfailing courage and fertile resourcefulness had wrested food and shelter from the most desolate and the most northerly land environment of the world.

Once, in 1860, there came to the Cape Farewell trading station an Inuit who had lost his toes and fingertips. Though just able to grasp a paddle with his stumpy fingers, he was an expert kayaker and threw his javelin with the left hand. He said that he was from a place called Angmagsalik, and that between eight hundred and a thousand natives dwelt in that vicinity. For nearly a quarter of a century this report of the existence of an unknown tribe of Inuits remained unverified. In 1883, however, the exploration of this part of East Greenland was made by a Danish officer of extended and successful experience in the governmental surveys of southern Greenland, who fully recognized the hazardous and prolonged nature of such an expedition. The Inuits said that many lives had been lost in attempting the shore-ice of the east coast, and that a round trip to and from Angmagsalik—"Far, oh! so far to the north!"—took from three to four years.

Thoroughly familiar with the native methods of life and of travel, this officer, Captain G. F. Holm, Royal Danish Navy, adopted the safest, indeed, the only, method of coast transportation—in the *umiak*.

The *umiak* (called the woman's boat, as it is always rowed by women) is a flat-bottomed, wooden-framed, skin-covered boat about twenty-five feet long and five feet wide. Only the framework, thwarts, and rowing

benches are wooden, the covering being well-dried, blubber-saturated, hair-free skins of the *atarsoak* (Greenland seal). Resembling in appearance the parchment of a drum-head, the seal-skin becomes quite transparent when wet so that the motion of the water is seen through it. Sometimes a light mast carries a spread seal-skin for sail, but as a rule the boat is propelled by short, bone-tipped paddles which, in the hands of several strong women, carry the *umiak* thirty miles a day through smooth, ice-free water. When going near the ice a heavy seal-skin is hung before the bow to prevent the delicate boat skin from being cut. When a little hole is worn through, the women deftly thrust a bit of blubber through it until the boat is hauled up on the shore, which must be done daily to dry the sea-saturated covering. These boats can transport from three to four tons of cargo, and are so light that they can be readily carried on the women's backs overland.

Holm knew that his journey must entail at least one winter among such natives as he might meet, so that his equipment was very carefully selected, with a view to the gifts and trading which are so dear to the native heart. The northward journey was full of incident and of interest. Not crowding his women rowers, Holm tarried here and there for the hunt; besides, he wished both to gather information from an occasional encampment and also to cultivate loyalty in his reluctant crew by permitting his women to show their west-coast riches to the east-coast heathen.

Here seal were killed and there the polar bear was chased, while the sea-fowl, the narwhal, and the white whale were the objects of pursuit to the eager native hunters, who accompanied the *umiaks* in their light, swift-flying kayaks.

In voyaging there was the usual danger from sharp ice cutting the *umiaks* and necessitating repairs, and from lofty bergs and ancient hummocks as they crossed the ocean mouths of the ice-filled fiords, and alas! too often there were tedious, nerve-racking delays when on desolate islands or rocky beaches the *umiak* fleet was ice-bound for days at a time.

Wintering near Cape Farewell, Holm, with Garde and Knutsen, put to sea May 5, 1884, his *umiaks* being rowed by nineteen women and five men, while seven hunters followed in kayaks. Garde devoted himself to the precipitous, ice-capped coast, and between 60° and 63° N. found nearly two hundred living glaciers that entered the sea, seventy being a mile or more broad. In Lindenows Fiord, 62° 15′ N., were found almost impenetrable willow groves near old Scandinavian ruins. Fine new ice-fiords were discovered which put forth innumerable numbers of icebergs, the highest rising two hundred feet above the sea.

The western Eskimos were alarmed either at the ice difficulties which lengthened the voyage, or feared the *angekoks*, or magicians of the east coast, and nineteen of them insisted on turning back. Holm was obliged to send them back under Garde, but with determined courage to fulfil his duty as an officer of the Danish

navy, he went on with twelve faithful women and men, although he was not half-way to Cape Dan.

As before told, Graah turned back in sight of Cape Dan, believing that he had reached the limit of human habitations. Great then was Holm's surprise to here find the last of the three missing polar tribes, who to the number of five hundred and forty-eight individuals were occupying the fertile hunting-grounds of the archipelago of Angmagsalik, which consists of about twenty ice-free islands to the west of Cape Dan, about 65° 31′ N., adjacent to the beautiful Sermilik ice-fiord. In this district the tides and currents keep open the inland water-ways, so that seals are plentiful and easily taken, thus making it an Inuit paradise. Holm and Knutsen here wintered, 1884–5, and in their ten months' residence with these people gathered a vast amount of ethnographic and historic material pertaining to the lives of these extraordinary Inuits, who had never before seen a white man.*

This missing polar tribe pertains to the stone age of the world, its weapons being almost entirely of bone, while its methods of hunting follow lines long since abandoned by Inuits who have had contact with whites. Their high sense of fidelity was shown by Navfalik, who was placed in charge of stores left for the winter at Kasingortok. That winter his family suffered from

* The data relative to this expedition is not available in English, but has been published in full in vol. IX, "Meddelelser om Gronland (Communications on Greenland)," in Danish text. With its generous policy the Danish Government has taken these natives under its fatherly protection, so that their future welfare is assured against exploitation, degradation, and early extinction.

lack of food, but all through these days of terrible distress and prolonged hunger the stores of the white man were untouched by this faithful Eskimo.

Of these natives Rasmussen says: "There is no people with a history which, as regards the bitterness of its struggle for existence and the eeriness of its memories, can be compared with that of the Eskimo. . . . His mind can be calm and sunny like the water on a summer day in the deep, warm fiords. But it can likewise be savage and remorseless as the sea itself, the sea that is eating its way into his country."

Of their endurance of cold Poulsen records: "Inside the house both grown-up people and children wear, so to speak, nothing, and it does not inconvenience them to walk out into the cold in the same light dress, only increased by a pair of skin boots. I remember seeing two quite young girls walking almost naked on the beach, fifteen minutes' walk from the house, gathering sea-weed, though the temperature was about twenty-four degrees below the freezing-point."

As a dumb witness of their method of life in their permanent homes may be mentioned the house at Nualik, more than a hundred miles to the north of Angmagsalik (discovered by Amdrup), where an entire settlement of twenty or more perished, probably of ptomaine poisoning from semi-putrid meat (a delicacy among the Eskimos as is semi-putrid game with us).

"On the platform along the back wall, as shown by the skeletons, the inhabitants had once lain comfortably between the two bear-skins, the upper one

with the hair down. On the five lamp-platforms stood the lamps and the stone pots. The drying-hatches above them had fallen down, but remains of bear-skin clothes still lay on them. Under the platform there were chip-boxes and square wooden* cases, and on the stone-paved floor large urine and water tubs. In front of one of the small side platforms there was a blubber-board and a large, well-carved meat-trough, and scattered about the floor lay wooden dishes, blood-scoops, water-scoops, besides specimens of all the bone utensils which belong to an Eskimo house.

"Near the house stood four long, heavy stones, placed edgewise, on the top of which the *umiak* rested (protected thus from the dogs). Scattered around were kayak frames and their bone mountings, hunting and other implements. Amongst the big heap of bones outside the house were the skulls of narwhals, dogs, and bears. Among the utensils was a blood-stopper ornamented with a neatly cut man's head, which, recognized by old Inuits at Angmagsalik, identified this party as a northerly migrating band from the main settlement."

Of the after life a glimpse is given by the talk of an east-coast Inuit to Rasmussen: "On a lovely evening a broad belt of northern lights shot out over the hills in the background and cast a flickering light over the booming sea. Puarajik said: '*Those are the dead playing ball. See how they fly about! They say that they run about up there without clothing on.*'"

* The wood was obtained from the drift-wood along the east coast, supposed to come from Asia, along the line of drift shown by the voyage of the *Fram*.

Of the seamy side of life he adds: "But in the winter, when people were gathered together, the larders were full, and desires centred on the shortening of the long, idle winter nights, things would be quite different [from the happy, industrious life of summer]. Much food and sitting still, the desire to be doing, the craving for change made people pick quarrels. Old grievances were resuscitated; scorn and mocking, venomous words egged on to outbursts of anger; and in winter feasts regrettable incidents occurred. Men and women, excited and goaded on by others, forgot all friendly feeling, and on most extraordinary pretexts often challenged each other to insult-songs, fought duels, and committed most appalling murders."

It is evident that among the people of the stone age there exists the same inclination to exploit and perpetuate deeds of individual and warlike prowess, that appears not only in modern history as a whole but also in news of current publication.

Acts of kindness, deeds of heroism, and displays of the fair and humble virtues that sweeten daily life are entirely absent from the old Inuit traditions. Yet these "True Tales" depict the honesty of Navfalik, the humanity of Kalutunah, the fidelity of Brönlund, and the devotion of Mertuk.

The total omission of similar tales of admirable and humane conduct from the legends and the folk-songs of the Inuits of the stone age doubtless depends in part on the savage superstitions, wherein magical powers and forces of evil are greatly exalted, and in

part on the disposition to dwell on the unusual and the terrifying.

So there are reasons to believe that the survivors of the stone age in East Greenland exhibit in their daily life human qualities of goodness and of justice that were characteristic of their rude and virile ancestors.

Such, though inadequately described, are the newly found Inuits of the Angmagsalik district of East Greenland, the sole surviving remnant of the untutored aborigines of the north polar lands. Their human evolution is of intense interest, as it has been worked out under adverse conditions of appalling desolation as regards their food and their travel, their dress and their shelter, their child-rearing and their social relations.

That the world knows the last of the missing polar tribes, and that this remote, primitive people is now being uplifted in the scale of humanity, must be credited to the resolute courage, the professional zeal, and, above all, to the sympathetic human qualities of Captain Holm and his faithful officers and assistants.

THE FIDELITY OF ESKIMO BRÖNLUND

THE FIDELITY OF ESKIMO BRÖNLUND

"And truly he who here
Hath run his bright career,
And served men nobly, and acceptance found,
And borne to light and right his witness high,
What better could he wish than then to die?"

—ARNOLD.

THE Mylius-Erichsen arctic expedition of 1905 sailed for the east coast of Greenland in the ship *Danmark*, commanded by Captain Trolle, Danish Royal Navy. Its purpose was to continue the remarkable surveys of the Danish government by completing the coast-line of northeast Greenland. From its winter quarters at Cape Bismarck, 76° 14′ N., autumnal sledge parties established advance depots of supplies in order to facilitate the travel of its surveying party the following spring.

The field work was under charge of Mylius-Erichsen personally, a Danish explorer of ability and experience, already distinguished for successful work in northwestern Greenland. It was planned that near the eighty-second parallel of north latitude the main party should be divided, so as to complete the work that season. Lieutenant Koch was to outline the southeastern shore-lines of the land to the north of Greenland, while Mylius-Erichsen was to carry his surveys inland until they joined those of Peary, thus filling in

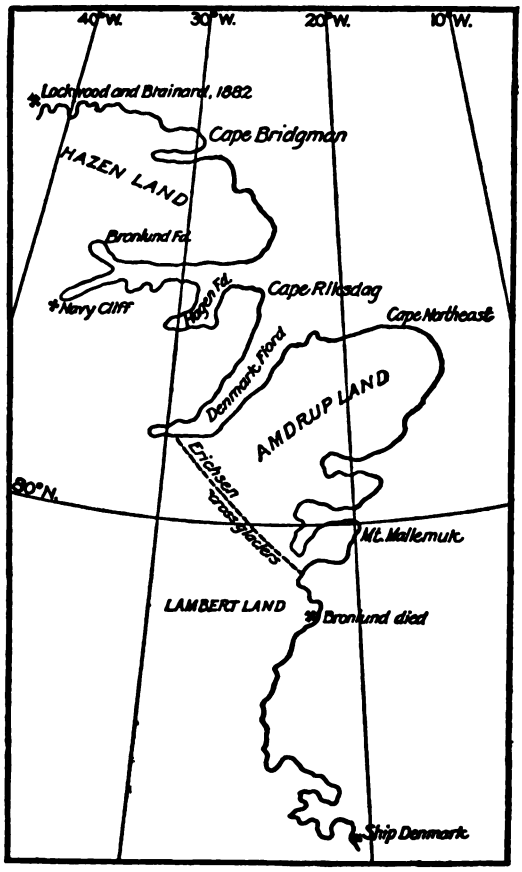
the totally unknown regions of extreme northeastern Greenland.

This plan was carried out in the spring of 1906, the two parties separating at Northeast Cape, whence Koch struck courageously north on May 1, with food for fourteen days only. Game fortunately came to him and he was enabled to advance his country's colors to an unprecedentedly northern latitude for Denmark, 83.5° N., and by his explorations to complete the survey of the most northerly land of the globe —originally named Hazen Land, which is now known as Peary Land. The brilliant discoveries, tragic experiences, and heroic struggles of Mylius-Erichsen and his topographer Hagen, and the fidelity unto death of his Eskimo dog driver, Jörgen Brönlund, are briefly outlined in this narrative.

After the long winter of sunless days and bitter cold, it was with high hopes and cheery hearts that the long line of dog-drawn sledges followed Mylius-Erichsen as they wended their way northward at the end of March, 1907. With ten sledges and nearly a hundred dogs much was to be done by the resolute men who feared neither cold nor famine, the dangers of the sea-ice, or the hardships of the trail.

Their courage and strength were soon tested by difficulties and perils of unexpected character, for they thought to find the ordinary ice-foot along the shore, which could be followed inward or outward as the character of the ice dictated. But there was no ice-

foot. Along Glacier Gulf for the distance of one hundred and forty miles the glacial ice-cap of Greenland,



Amdrup and Hazen Lands, Greenland.

known usually as the *inland ice*, moves summer and winter—with unbroken vertical front, hundreds of

feet in height—slowly but unceasingly into the Greenland Sea. Between the steady southward drift of the vast ice-fields from the Arctic Ocean and the seaward march of the glacier the shore ice was found to be of almost incredible roughness. Magnificent, and unequalled elsewhere in the world, was the sight of this towering sea-face, but scores upon scores of miles of ever-dominating ice-cliffs through their weeks of struggle grew to be unwelcome, so that their end at Lambert Land was hailed with joy.

Here came unexpected food, which did much to make the completion of the survey possible. As they were crossing the smooth fiord ice, Brönlund's keen and practised eye saw far shoreward tiny specks of moving animals, and he shouted loudly "*Nanetok!*" (A bear!). They proved to be two mother bears with cubs. In a trice the teams were stopped, the trace-toggles slipped from the few dogs that were used to bear-hunting, who started excitedly on the jump for the already fleeing game. Soon catching up with the lumbering animals, slow-moving on account of the cubs, the dogs, followed their usual tactics of nipping sharply the hind legs of the bear, who stops to drive off the dog or stumbles forward with the dog fast at his legs. Meantime Brönlund and Tobias, the two Eskimo dog drivers, quickly threw off the sledge loads on the floe and drove on with such speed that the hunters were soon within shot. The bears skinned and the dogs fed, the northward march was renewed in high spirits, for the slow travel had sadly reduced their food.

They were nearly in despair on reaching the south shore of Mount Mallemuk, as the open sea made it impossible to pass around it. With exhausting labor they finally were able to clamber up a projecting point of the seaward-flowing glacier, but their first supporting sledge here turned homeward.

Difficult as had been the ice and the glacier-scaling, they came to a real danger when around Mallemuk they were driven far out on the ocean in order to proceed northward, for the inland ice was impossible of passage and great areas of open water gave way slowly seaward to new ice. This was so thin that it bent and crackled as sledge after sledge tried in separate and fearsome order a passage that threatened to engulf them at any moment. Yet they came safely to Amdrup Land, 80° 43′ N., whence the last supporting party returned, charged to explore on their homeward journey the unknown fiords to the north of Lambert Land, where their spring discoveries of new lands had begun.

Pressing on after the return of the supporting sledges, Mylius-Erichsen was surprised and disappointed to find that the coast continued to trend to the northeast, and not to the northwest, as indicated by all charts since Peary crossed the inland ice to Navy Cliff. This northeasterly trend greatly increased the length of the journey needful to complete the survey of the entire east coast. Their equipment had been planned for the shorter distance, and it was evident that this forced détour would soon leave them without food for

themselves or for their dogs unless more game should be found.

They thought that this extension would never end, but it was finally reached at Cape Northeast, 82° 30′ N., 12° W., no less than 22° of longitude to the eastward of Peary's location of the Greenland Sea in his discoveries of 1892 and 1895. The new cape was halfway between Navy Cliff and Spitzbergen, thus narrowing by one-half the largest connecting waterway of the Arctic and the Atlantic Oceans. It was a magnificent discovery, for which some of these explorers were to pay with their lives.

Mylius-Erichsen and Koch counselled seriously together, and well they might. They had been on the march more than a month; coming summer, with a disintegrating ice-pack, and the dreaded Mallemuk mountain precipices, sea-washed at their base, were to be faced on their homeward journey; and to crown all they had provisions for only fourteen days.

Imbued with the high Danish spirit, they duly weighed, with national calmness, the pros and the cons, only asking each other how and what, with their pitiful means, they could further do for the glory of Denmark. The heroic loyalty of both men found full expression in the decision that it was their bounden duty to go forward, and to finish the survey with which they were charged, regardless of possible dangers and personal privations. So Koch marched northward, while Mylius-Erichsen turned westward toward Navy Cliff, nearly two hundred miles distant. The west-

ward explorations had been made much more important by the unexpected easterly extension of Greenland, which left a great gap in its northern shore-line that must at all hazards be surveyed. Starting with Topographer Hagen and the Greenlander dog driver, Brönlund, Erichsen reached a great inland fiord (Denmark), which he naturally took for the one charted by Peary as bordering the Greenland Sea. Though this détour carried him a hundred miles out of the direct route to Cape Riksdag, it was not wholly without results. Twenty-one musk-oxen were killed, which restored the strength of the dogs, whose gaunt frames already alarmed the party.

Here with astonishment they saw signs not alone of the beasts of the earth and the birds of the air, but everywhere were indications of their master—man himself. As they skirted such scanty bits of land as the inland ice had spared, they found along every bay or inlet proofs of former human life. There were huts and household utensils,—left as though suddenly,—circles of summer tents, fragments of kayaks and sledges, stone meat-caches, fox-traps, and implements of land hunt and sea chase, in which both reindeer and whales were in question. They were mighty hunters, these children of the ice, men of iron who inhabited the most northern lands of the earth, and had there lived where these white voyagers of heroic mould were destined to perish.

The signs of human life continued beyond Denmark Fiord to the very shores of Hagen Fiord, thus clearly

establishing the route of migration over which the Eskimo of Arctic America or of the Bering Strait region had reached the east coast, and possibly West Greenland, coming from the north.*

The turning-point of Erichsen's fortunes came at Cape Riksdag, where he met Koch's party returning from the north. His discoveries and surveys of south-eastern Hazen Land (Peary), where he reached 83° 30′ N., and his tales of game, encouraged Mylius-Erichsen to go on, though he had food for eight days only for the men, eleven for the dogs, and a few quarts of oil for cooking.

Another fiord (Hagen) was discovered, which proved fatal to the party, as Mylius-Erichsen felt that Navy Cliff, reported as overlooking the Greenland Sea, must surely be therein. He turned north on learning his error, only to eat his last food on June 4. He felt obliged to cover his mistake by going still to the west to Cape Glacier (Navy Cliff) yet 9° of longitude inland. Peary had there escaped starvation by large game, and Erichsen went forward knowing that without game death awaited him. Now and then they shot a polar hare, a bare mouthful for three starving men and twenty-three ravenous dogs. June 14, 1907, Mylius-Erichsen connected his surveys with Navy Cliff.†

* The discoveries of Lieutenant (now General) Greely around Lake Hazen, of Lockwood and Brainard in northwest Greenland and Hazen Land, prove that the route followed was via Greely Fiord, past Lake Hazen, across Kennedy Channel, over Hall Land, probably through the upper valley of Nordenskiöld Inlet, and along the shores of Peary Channel to Denmark Fiord.

† According to the lately published report of the gallant Danish explorer, Mikkelsen, the recovered records of Mylius-Erichsen show that the insu-

He had a right to a feeling of pride and of exultation, for his magnificent series of discoveries, covering 5° of latitude and 22° of longitude, completed the survey of northeastern Greenland. Thus had these adventurous men given tangible form to the hopes and aspirations that for so many years had stirred the imagination of Danish explorers. These discoveries had involved outward sledge journeys of more than seven hundred miles, although the party was only outfitted for a distance of three hundred and thirty miles.

Lieutenant Trolle tells us how startlingly sudden was the change from winter to summer at the *Danmark*, Cape Bismarck. "The temperature of the snow had risen to zero (32° Fahrenheit), and then in one day it all melted. The rivers were rushing along, flowers budding forth, and butterflies fluttering in the air. One day only the ptarmigan and raven, the next the sanderling, the ringed plover, geese, ducks, and others."

Mylius-Erichsen and his comrade had a similar experience just as they turned homeward. Almost in a day the snow-covering of the sea-floe vanished, as if by miracle. Here and there water-holes appeared—the dreadful fact was clear, the ice-floes were breaking up. Forced now to the coast-land, it was plain that return to their ship was no longer possible. They must summer in a barren, ice-capped land, and wait, if they could live so long, until the frosts of early

larity of Greenland was not discovered by Peary at Navy Cliff. Peary Channel is only a fiord indenting northeastern Greenland, which extends northward as shown in the attached map of Amdrup Land.

autumn should re-form the great white highway of arctic travel.

Mylius-Erichsen hoped that the outlying valleys of his newly discovered Denmark Fiord would afford enough game to enable them to live, at least long enough to permit them to reach some one of their depots where they could deposit the records of their surveys. They reached the fiord about the end of July, but alas! the big game of the past spring was gone! Now and then they killed a stray musk-ox and, like famishing creatures, men and dogs ate for once their fill. Again and again food failed utterly, but when death came too near they killed, with sad hearts, one of their faithful dogs, until nine of them had been eaten.

In the recovered field-journal of Brönlund, under date of August 7, we read: "No more food! It is impossible to travel and we are more than nine hundred kilometres [five hundred and sixty miles] from the ship." On the 8th Erichsen started for the southern end of the fiord, thinking that in its ice-free valleys the chances of game would be increased. As it was necessary to travel on the ice-floes they started across the ice, changing from one floe to another when forced to do so. Unfortunately they were driven offshore and found themselves adrift. Day after day, kept seaward by wind and tide, they strove in vain to reach shore, but it was sixteen days before this was accomplished. When they landed on August 24, Brönlund writes: "We still have fourteen dogs, but no food. We have killed one of these animals and eaten half of

him; the other half will serve as our food to-morrow. The half of a dog for three men and thirteen dogs is not too much to digest, and after eating it we are as hungry as before."

When land was reached Erichsen and Hagen applied themselves to hunting. Hare after hare and ptarmigan after ptarmigan were pursued and killed. But alas! the valleys were searched in vain for musk-oxen or reindeer, and it was feared that the big game of the region was exterminated.

Throughout these awful days of suspense and of hunger neither Mylius-Erichsen nor Hagen failed to maintain their courage and cheerfulness. In the intervals of needed rest between the long, exhausting hunting tramps, they kept on the even tenor of their way. Erichsen wrote a little poem to distract the attention of his companions from their present surroundings. Faithful to the last to his favorite vocation, Hagen made with care and pride beautiful sketches of the country traversed and of the lands newly discovered. Thus passed away the brief polar summer, but further details are lacking since Brönlund's journal has no entries from August 31 to October 19.

Meanwhile, Koch had made safely his homeward journey, and, although the anxiety of the officers at the ship was somewhat lessened by the news that game had been found in the far north, yet they were nevertheless uneasy as to the dangers of Erichsen's home travel. Koch, it seems, had found an open and impassable sea at Mount Mallemuk, so that he was driven to the in-

land ice. He there found himself obliged to cross a very narrow glacier, where its seaward slant was so nearly perpendicular that a single slip would have precipitated men and dogs into the open sea, hundreds of feet below.

Later it was decided to send a search party north, under mate Thostrup. Nor was this autumnal march without danger, even apart from the perils of travel along the coast, where the men nearly perished by breaking through the new ice. At Jokel Bay Thostrup was driven to the inland ice, the only possible route. At all times difficult, this travel was now made especially dangerous by the fact that the old glacial surface was not yet covered by the hard-packed winter drifts. Thostrup's whole sledge party on several occasions barely escaped falling into the fearful crevasses, seen with difficulty in the semi-darkness of the sunless days. As it was, several of the dogs were lost when, a snow bridge crumbling, the animals fell into a crevasse. Their seal-skin traces breaking, the dogs dropped to the bottom of the ice-chasms, which were sometimes two hundred feet or more deep. With kindly hearts the Eskimo drivers tried to shoot the poor animals, and put them out of their misery, but did not always succeed. As Erichsen had not reached the coast the journey was without result. Thostrup found untouched the caches of Lambert Land and Mount Mallemuk, and turned southward on October 18, unconscious that a hundred miles to the westward his missing shipmates, facing frost and famine, were valiantly struggling against fate and death.

The condition of the arctic Crusoes of Denmark Fiord, though there were doubtless days of cheer and hope, grew gradually worse, and by the middle of October had become terrible, if not hopeless. Although the autumnal ice was now forming, Mylius-Erichsen knew that in their state of physical weakness the long journey of five hundred miles to the ship, around Cape Northeast, could never be made. Hagen agreed with him that the single chance of life, feeble though it was, lay in crossing the ice-capped mountain range, direct to the depot on Lambert Land. Of course, the height of the ice-cap, the character of its surface, and the irregularities of the road were all unknown quantities.

The state of their field outfit for the crossing of the inland ice betrayed their desperate condition. In general, their equipment had practically disappeared under stress of travel and of hunting. To the very last they had carried their scientific outfit and instruments. It was a sad day when they recognized that the only way of repairing the great rents in their skin boots was through the use of the sole-leather case of the theodolite. Even that had quite gone, and without needle, thread, or leather, they could only fold wraps around their boots, now in shreds, and tie them on with such seal-skin thongs as had not been eaten. The tent was badly torn, and, with the sleeping-gear—on which had been made sad inroads for dog-food and patches for clothing—afforded wretched shelter against storm and cold. For transportation there were four gaunt dogs—the last that ravenous hunger had spared—to haul the

remnants of a disabled sledge. The winter cold had set in, with almost unendurable bitterness to the enfeebled, shivering men. The weak arctic sun, now skirting the southern sky at mid-day, was leaving them for the winter, so that the dangers of crevasses and the difficulties of glacier-travel must be met either in total darkness, or, at the best, in feeble, uncertain twilight.

Discarding everything that could be spared, they reached the inland ice on October 19, the day the sun went for the winter, and barefooted they travelled across this glacial ice-cap one hundred and sixty miles in twenty-six days. Their shipmate, Lieutenant A. Trolle says: "When I think of the northerly wind and the darkness, when I consider that every morning they must have crawled out of their dilapidated sleeping-bags, though they could have had one desire, one craving—that of sleeping the eternal sleep—then my mind is full of sorrow that I shall never be able to tell them how much I admire them. They *would* go on, they *would* reach a place where their comrades could find them and the *results of their work*. Then at last came the end, the death of Mylius-Erichsen and Hagen a few miles from the depot, and the last walk of Brönlund, crawling along on frozen feet in the moonshine. With the sure instinct of the child of nature, he found the depot, ate some of the food, wrapped himself up in his fur, and died."

By Brönlund's body was found Hagen's chart of their discoveries, and his own field-journal in which the final entry runs: "I perished in 79° N. latitude, under the hardships of the return journey over the inland

ice in November. I reached this place under a waning moon, and cannot go on because of my frozen feet and the darkness. The bodies of the others are in the middle of the fiord. Hagen died on November 15, Mylius-Erichsen some ten days later."

The courage and self-sacrifice of Mylius-Erichsen and Hagen for the advancement of the glory of their country were based on conditions readily understood. Officials of high ideals, long in public service, honored with important duties, they possessed those heroic qualities which throughout the ages have impelled chosen men to subordinate self to the common weal. Of such has been said:

> "Gone? In a grander form they rise!
> Dead? We may clasp their hands in ours,
> And catch the light of their clearer eyes,
> And wreathe their brows with immortal flowers."

These young explorers instinctively knew that their deeds of daring would give them fitting and enduring fame. Their faith in their country was justified by the tribute that Denmark promptly erected.

But with Jörgen Brönlund, Greenlander, it was quite another tale. The virtues of self-sacrifice and of fidelity unto death are practically ignored in the traditional myths and tales of Greenland, which represent the literature, the religion, the history, and the poetry of the Eskimo people.*

* Among two hundred Eskimo tales and traditions given by Rink and Rasmussen there does not appear to be a single one wherein the qualities of self-sacrifice and absolute fidelity are the essential or main ideas.

Brönlund had long foreseen the outcome, as appears from his journal entry: "We are all dead!" From this early acceptance of his coming fate, and from the Eskimo racial trait of calm acquiescence in destiny, it would be natural that in the field the native would have first succumbed.

But, charged with a solemn, vital mission, evidently receiving the commands of his leader as the voice of God, this Inuit was faithful even over fear of death, and by his heroic efforts, freezing and starving, insured the fame of his comrades and so added to the glory of his distant fatherland (Greenland is a colony of Denmark), unknown to him.

Both through the dictates of his noble soul, and also inspired by his leader, he rose to sublime heights of heroic action. All must indeed die, but he would to the last moment of his life be true to his sledge-mates, Erichsen and Hagen. Without doubt their last words were a charge not to fail to place in the cache at Lambert Land the field-charts and his own journal, so that Denmark might know that her sons had fulfilled their allotted duty.

They mistook not their man, and the fame of Denmark's officers was insured by the heroic efforts and unfailing fidelity of their humble subordinate, the Inuit dog driver, Jörgen Brönlund—Greenlander.

Among the striking features of the beautiful city of Copenhagen are statuary by the famous Thorwaldsen and other great sculptors, which proclaim the fame and preserve the memory of kings and statesmen, of

MONUMENT TO ARCTIC EXPLORERS IN GLACIAL ROCK.

Picturesque memorial in Copenhagen to Mylius Erichsen and his two fellow-explorers who perished in the ill-fated Denmark arctic expedition.

authors and admirals—men great in war and in peace, in civic worth and in learning. It is to the honor of the city that lately there has arisen a unique and striking memorial to commemorate worth and fidelity in fields far beyond the sunset, remote from commercialism and from civilization. Thus Denmark keeps fresh in the hearts and in the minds of her people the heroic struggle unto death of Mylius-Erichsen and of Hagen, and of the Danish Eskimo Brönlund. Such steadfast sense of duty and heroic powers of accomplishment are not the heritage of Denmark alone, but of the nobler men of the wide world.

THE WIFELY HEROISM OF MERTUK, THE DAUGHTER OF SHUNG-HU

THE WIFELY HEROISM OF MERTUK, THE DAUGHTER OF SHUNG-HU

"Deeper devotion
Nowhere hath knelt;
Fuller emotion
Heart never felt."
—GOETHE (*Dwight's translation*).

RARELY, if ever, has there been recorded in history a more varied and adventurous life than that of Mertuk, wife of Hans Hendrik, who came into literature through the magical pen of Elisha Kent Kane as the "pretty daughter" of Shung-hu, an Etah Eskimo. She was born (and reared) as a veritable Child of the Ice, being one of the members of the northernmost tribe of the world,—a people, in the last century, of absorbing interest as a surviving offshoot of the Stone Age.

Mertuk married Hans Hendrik, an Eskimo of Moravian faith from Danish West Greenland, who was practically a deserter from Kane. This northern idyl was the reverse of Ruth of the Bible, since for the sake of Mertuk, Hans abandoned his family and his country, willingly separating himself from the comforts and certainties of civilized life for the vicissitudes and inconveniences of an archaic environment. Despite a lovely wife, Hans soon discovered the wretched discomforts and unwelcome methods of life on the

Etah coast, where hunger and physical sufferings were not infrequent attendants on even the most skilful and active hunter.

When the polar expedition of Dr. Isaac I. Hayes touched in 1860 at Cape York, Hans joined the doctor's forces taking his wife and child with him; next year they emigrated to Danish Greenland when Hayes sailed south.

Ten years later Hans, with Mertuk and three children, joined Hall's north-polar expedition, which made a ship's record for the world. At Thank-God Harbor was born Mertuk's youngest child, Charles Polaris, nearer the pole than any other known infant. With undaunted courage and uncomplaining fortitude she endured, with her four children (one a babe of three months), the fearful vicissitudes of the Polaris drift, set forth in another sketch, "The Marvellous Ice-Drift of Captain Tyson," carrying her babe in her seal-skin hood while dragging a heavy sledge over rough ice.

With quiet dignity, in keeping with her cool equanimity and her unblanching acceptance of hardships in the white North, Mertuk accepted the extraordinary experiences incident to temporary life in the great emporium of American civilization—New York City—which she was the first of her tribe to visit. Returning to Danish Greenland with her children, she there passed the rest of her less eventful life, busy and happy in the domestic duties pertaining to her family and to her Inuit neighbors.

The incident of Mertuk's wifely heroism, herein told in detail, is drawn from an unpublished diary of Mr. Henry W. Dodge, mate of the schooner *United States*, then wintering under Dr. Hayes at Port Foulke.*

The sketch of the childhood of this heroic and interesting woman is based on various passages of explorers and writers familiar with the incidents of Etah life.

Among the forceful and friendly natives of Etah sixty years since, in the days of Kane, was Shung-hu, famed equally for his qualities as a man and for his daring as a mighty hunter. He especially displayed his skill in the successful pursuit of the polar bear, whether on land along the coast, on the fast ice under the frowning snow-cliffs of Humboldt Glacier, or on the moving ice-floes of Smith Sound. Apart from his alert action and dignified bearing, his person was notable through his ample whiskers, on chin and on lips, which age and exposure had already softened by their silvery coloring. Indeed, he was the only full-bearded native in the nation, as is related by Hayes, whose distressed and starving boat party was only able in the last extremity to reach the *Advance* through the aid of the Angekok Kalutunah and his comrade Shung-hu.

Among the much-loved children of Shung-hu was a daughter, Mertuk, whose mother's name is unknown, but she doubtless had that deep affection and tender care for her daughter which are common traits of these iron women of the Etah coast.

* See map on page 95.

Nature and necessity had made the family lead a life of constant wandering, and so the child shared the seasonal and oft irregular journeys along the shut-in, narrow coast-land between the great Humboldt Glacier and the sea-beaten cliffs of Cape York. It was always a journey for food—birds and bears, deer and seals, walruses and narwhals, as time and good-fortune dictated.

Carried by her mother, little Mertuk travelled in true native fashion, thrust naked and feet foremost into the back part of the ample seal-skin hood. There she rode in warmth and comfort, safely seated astride of a soft, rounded walrus thong, which passed under the arms of the mother and was made fast around her neck.

Mertuk thus grew and throve, happy and healthy, under conditions which to boys and girls of our own country would have seemed impossible of endurance. Sometimes the tiny child would be thrust out in a temperature in which mercury would freeze solid, and with laughter felt the biting, stimulating cold that only made the hood more welcome as a home-nest. It was the way of the wild, which must be followed in this country of sunless winters and of blinding blizzards, which every brave Inuit loved.

To this Eskimo maiden the whole world was made up of a few score men, women, and children of the igloos, of a dozen kinds of birds in the air, and on the cliffs; of white hares, bluish foxes, and reddish deer on land; of smooth seals, white whales, horned narwhals,

and big-tusked walruses in the sea; and last but by no means least the enormous amphibious, sharp-clawed bear whose glistening, yellowish-white skin furnished material for the furry garments in which her father Shung-hu was always clothed.

At an early age Mertuk came to know the living creatures which were the sources of food and the means of life. She could tell the seasonal time in which came and went the wild fowl, of their breeding and of their young. The haunts and habits of the swift-footed animals of the glacier-enclosed land were all known to her, as well as the favorite resorts of the monsters of the bordering icy ocean, which furnished the hides and bones, the sinew and ivory, without which there would be neither needles and thread for the igloo, nor lances and sledges for the hunter.

It was a land of meat and flesh in which she lived, with no bread or vegetables, and the taste of sugar and of tea, the flavor of salt and of pepper, were absent from her food. She knew not books, matches, fire-arms, boats, stoves, crockery, nor cloth whether of cotton or fibre, of silk or wool. It was a land without wood, iron, medicines, or stimulants, and equally without government, schools, churches, hospitals, or even houses—unless one could so name the stone huts, the skin tents, or the transient snow igloos.

Her mother early taught her all the kinds of women's work which could make her useful to her tribe or to her family, and without doubt instilled in her a sense of some of the feminine graces which have softened

the harshness of the world in all climes and in every country throughout the ages. Here they were a part of the life of the stone age, which the Etahs had inherited untainted by the outside world.

The daughter's supple fingers soon braided evenly and closely the sinews of the narwhal into the tense and needful bow-strings, for Shung-hu hunted reindeer with bow and arrows. Her strong hands tightly stretched the drying seal-skin, through which later her bone-needles and sinew-thread were so skilfully plied that the skin broke before the seams gave way. With deft action and with an unwonted taste she so shaped her bird-skin clothing and blue-fox hoods as to win praise for her garments from men and women alike. Her skill with the lamp soon became equal to that of the oldest expert of the tribe. Choosing and drying the long moss best suited for wicks, she applied a bit of walrus fat to the moss threads, and twisted them into a dense, even roll. While other lamps gave forth volumes of smoke, Mertuk so skilfully trimmed the lighted moss-wick that it gave an equal steady flame along the edge of the *koodlik* (pot-stone lamp). An adept in all woman's work, always in health, gay, witty and even-tempered, Mertuk came also to be a comely maiden—well-formed in figure, fair of face, though very tiny in stature.

But even in this land of Eskimo plenty there come seasons of dire distress, when famine stalks abroad and slow starvation strikes down the weaklings of the tribe. In such a time of want and hunger Hans Hendrik came

to the Etah tribe, to aid the half-famished folk in the hunt of the walrus, then needed to save from lingering death the sick men of Kane's ship as well as the strong people with Kalutunah and Shung-hu. Mertuk had watched from a distance this wonderful youth, who spoke Inuit queerly, to the sly amusement of the listening Etahs. But he carried a long, strange weapon—fire-flashing, ear-splitting, and death-dealing—that killed a bear or a walrus at great and unheard-of distances. In the brief intervals of the urgent hunt he came to Shung-hu's igloo to sleep, to eat their scant fare, and to feed his wolfish dogs, which were ever fighting with those of Shung-hu. The hunt was fast and furious, and with such success that steaks and liver, walrus-skin and rich blubber, were again in plenty.

Of the joyous feast after this particular hunt, in which Mertuk partook with other famishing Etahs, Kane quotes Hans Hendrik, "an exact and truthful man," as saying: "Even the children ate all night. You (Kane) know the little two-year-old that Awiu (possibly the mother of Mertuk) carried in her hood—the one that bit you when you tickled her. That baby cut for herself, with a knife made out of an iron hoop and so heavy that she could hardly lift it, cut and ate, ate and cut, as long as I looked at her. She ate a *sipak*—the Eskimo name for the lump which is cut off close to the lips [of the eater]—as large as her own head. Three hours afterward, when I went to bed, the baby was cutting off another lump and eating still."

The work of the hunt proved too strenuous for the Danish Greenlander, and finally Hans was worn out by exposure and fatigue, while he fell sick from cold and wet. In this condition he sought the breek * of Shung-hu's igloo for rest until he gained strength to enable him to return to Kane, to whom he had sent walrus meat.

The care of the strange Inuit fell on Mertuk. Prompt and gentle in her ministrations and attentions, jovial in her speech, and witty in conversation, she soon ensnared the heart of Hans. Indeed, from all accounts, she had that peculiar winning bashfulness that is so attractive among certain of the children of nature. Besides her tasteful dress she had a sense of order and of cleanliness, not always found among the Etahs. She not only kept her long, raven-black hair unmatted, but had also gathered her tresses into a tuft on the top of her head, where it was fastened by a finely embroidered seal-skin strap. This gave her a semblance of size and height quite needed, for she was only a trifle over four feet tall.

Hans soon took careful notice of his nurse, who talked with overflowing mirth, while her busy fingers, in the intervals of personal service, unceasingly plaited the tough sinew-thread with which arrow-heads are secured or other hunting implements perfected. Deft and quick, busy with work, careful of her little brothers, she seemed to be the maiden suited to his taste, al-

* The raised bench or platform of stone, earth, or snow, in the back part of the igloo, on which the furs and skins are arranged for bedding.

though the claims of other women were presented to him during his stay. Before he was strong, he had asked that she should become his wife. Most of her maiden comrades had sobbed and lamented when the time came for them to change the care-free, petted, and joyous child life for the onerous duties of an Etah matron. But Mertuk's heart glowed with happy feelings, and she sang with joy when the great Eskimo hunter, who had killed three of the five great walruses, asked that she would be his wife.

Kane relates the story of the courtship as follows: "Hans, the kind son and ardent lover of Fiskernaes,* has been missing for nearly two months. I am loath to tell the tale as I believe it, for it may not be the true one at all, and I would not intimate an unwarranted doubt of the consistency of boyish love. Before my April hunt, Hans with long face asked permission to visit Peteravik, as he had no boots and wanted to lay in a stock of walrus hide for soles. I consented.

"He has not returned and the stories of him that come from Etah were the theme of much conversation and surmise. He had given Nessark's wife an order for a pair of boots, and then wended his way to Peteravik (the halting-place), where Shung-hu and his pretty daughter had their home. This explanation was given by the natives with many an explanatory

*Kane says of him: "I obtained an Eskimo hunter at Fiskernaes, one Hans Christian (known elsewhere as Hans Hendrik), a boy of eighteen, an expert with the kayak and javelin. After Hans had given me a touch of his quality by spearing a bird on the wing, I engaged him. He was fat, good-natured, and except under the excitements of the hunt as stolid and unimpressive as one of our Indians."

grin; for Hans was a favorite with all, and as a match one of the greatest men of the country.

"The story was everywhere the same. Hans the faithful, yet I fear the faithless, was last seen upon a native sledge, driving south from Peteravik with a maiden at his side, and professedly bound for a new principality at Uwarrow, high up Murchison Sound. Alas! for Hans the married man. Lover as he was, and *nalegak* (chief) by the all-hail hereafter, joy go with him, for he was a right good fellow."

Though Hans said that his mother-in-law "had always behaved to me like a tender mother," and that "the amiability of these unbaptized people is to be wondered at," yet life went hard with the married couple among "the unchristened natives of the North."

Touching at Cape York in 1860, Dr. Hayes found Hans and his wife living there. Of their quarters, Dodge, in his unpublished journal says: "Their shelter was a seal-skin tent, six by eight feet in size and six feet high, in which lived Hans, Mertuk, the baby, and the mother-in-law. The *breek* of large stones took up, with the bedding, two-thirds of the space, leaving scant room for the cooking utensils; a small stone pot hung above the blubber-fed stone lamp."

He continues: "Mertuk was with him, having at her back a baby not a year old. I must admit that Hans would not have been inexcusable for being allured by a pair of black eyes to cast in his lot with the roving tribes of the North. She is by far the handsomest native woman that we have yet seen, being much

HANS, MERTUK, AND THEIR CHILDREN.

Redrawn from a wood-cut in Tyson's "Arctic Experiences."

prettier than any woman of the mixed races of Danish Greenland. She is very small but is finely featured, and has hands and feet as delicate as a child's. Notwithstanding the general harshness of the Etah language, her voice is quite musical, and she has the most gleeful, ringing, bell-like laugh that I have ever heard."

Taking his wife and babe along, Hans joined the expedition of Dr. Hayes as hunter. In midwinter, as elsewhere related in "Sonntag's Fatal Sledge Journey," Hans went south as dog driver, with the astronomer, to buy dogs for the sledge journeys of the coming spring. After a month Dr. Hayes, becoming greatly alarmed at their protracted absence, decided to send Dodge, the mate, south to trace the missing men. But deep as may have been the anxiety of Hayes for Sonntag, it did not equal the anguish of Mertuk's soul as to the fate of her loved Hans.

The theory that the people of the stone age are purely animals, struggling only for food, for clothing, and for shelter, finds no support in the conduct of this tiny, ignorant, heathen woman, whose heart was filled with ideals of love and of duty.

Living under conditions of ease and luxury far surpassing anything of which Mertuk's mind had before been capable of imagining, this tiny, uncivilized woman resolved to quit her abode of warmth and light for piercing cold and utter darkness, to abandon her abundant food and comfortable berth for a chance bit of frozen seal meat and a snow igloo. And for what reason? To find a missing husband, in search of whom a party was

to take the field. To non-polar people no words can convey an adequate idea of the dangers to be met, of the privations to be endured. It was a period of sunless days (the sun had been gone for more than a month), in the excessive cold of midwinter, at the season of fearful blizzards, along an uninhabited stretch of coast of utter desolation, in following which one must pass the dreaded Cape Alexander either on the outer moving ice-pack or along the treacherous ice-foot at the base of its precipitous cliffs. And no one knew better than Mertuk the misery and hardships, the sufferings and perils which must be faced on such a journey.

The tale of this woman's heroic resolution is thus told in his journal by Dodge, whom Hayes sent south to trace Sonntag's trail:

"Here let me introduce a little episode which might be useful to poets and novelists as an example of woman's constancy and devotion, showing perhaps that the true woman's heart beats the same in all ages, countries, and climes. It reveals itself equally strong in a Gertrude watching the livelong night beneath a scaffold, and in a simple, untutored savage, going out alone under the shadow of an arctic night, carrying a child upon her back and looking for a lost husband.

"Mrs. Hans [Mertuk] had discovered by some means that a searching party was being organized to discover the fate of the missing men. Being fearful that she would be detained if her intentions were known, she

left the vessel an hour in advance of us, hoping that she would be allowed to keep on when she should be overtaken.

"This information was not pleasant for me, as those best acquainted with Eskimo character felt sure that she would not turn back, unless forcibly compelled to do so.

"Her intention was not suspected, however, and it was not until I was on the point of starting that one of the Eskimo told Jansen, the Dane, that Mertuk had gone in search of her husband.

"When we were on our way, two and a half miles from the ship, I discovered some distance ahead a little form, plodding through the snow, which I knew must be Mrs. Hans. In half an hour more we had overtaken her, and I must admit that it was an affecting sight to look upon this little woman, barely four feet tall.

"With her child only a year old on her back, Mertuk plodded bravely along through the snow, into which she sank knee-deep at almost every step, impressed with the idea that the dearest one on earth to her was somewhere in the vast desolation before her, and fired with the feeling that she must find him or perish too.

"As my companion, Christian Petersen the Dane, could make her understand him, I told him to tell her that she could not go on but must go back, while we would go on and look for Hans, explaining the reasons for her return. But to all his arguments Mertuk simply said that she must find Hans or die—and resolutely she set her face toward the south.

"While Christian talked to her I stood by, leaning on my rifle, awaiting anxiously the result of a discussion that I could not understand, except as I read the woman's face. We could not spare the time to go back with her. She could not accompany us, for our pace was too rapid for her and besides we must not be delayed in our mission. If she followed us she would be soon worn out with fatigue, carrying her child through the soft, deep snow; and if she sat down to rest, her fate was certain when overcome by sleep or through exhaustion."

When Petersen said that he could do nothing with her, as she obstinately declared that she was going on for her husband, Dodge, greatly disturbed, was perplexed as to what action he should take. Fortunately there came to his mind a thought, kindred to that so forcefully and beautifully expressed by Tennyson in his lines, "Home they brought her warrior dead," and he continues:

"Finding that Christian's arguments were likely to prove unavailing, I stepped up to Mertuk, lifted up a corner of the reindeer skin that she had thrown over her seal-skin hood, and pointed to the tiny baby who was sleeping quietly, and said [in English]: '*If you go on the child will die.*' She could not understand my words, which the Dane did not translate, but something in her heart must have disclosed their meaning. For the first time she showed signs of irresolution, and her eyes filled with tears. Carefully covering the child's face, I brushed from the mother's hair and eyebrows the